

Amateur Radio

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JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA



- QRP CW TRANSMITTER WITH BREAK-IN
- COMING, READY OR NOT 30 METRES
- THE "TRINITY/G5RV55 ANTENNA

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JANUARY 1982

VOL. 50, No. 1

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Cover Photo



AT THE NSW FIFTH CONFERENCE OF CLUBS — See page 17
VK2 President Athol VK2BAD (left) presenting SC9 UHF transceiver and Merit Award to David VK2BDT, delegate/secretary of Goulburn ARC.

QSP::: QSP::: QSP:::

For those of us concerned with the future of amateur radio a major problem is knowing how to cater for the beginner.

The "would be" candidate for the amateur licence examination in the past had only limited access to our ranks. The help of a local amateur, the occasional article in AR or Radio and Hobbies (now Electronics Australia) covering exam questions and answers and for city dwellers maybe the odd WIA course, was about as much as the average potential amateur could expect.

Of recent years, especially since the great expansion in the number of radio clubs, many sources of tutoring became available. Still more recently "professional" educational bodies have shown greater interest in the training of examination candidates. Some would say the potential "examinee" has never had it so good!

But has he?

The recently licensed amateurs—particularly young Novices and even some ex-CBers—with little earlier exposure to radio communications, are not unlike technicians in training—apprentices—those who have successfully acquired the basic education from an apprenticeship. They NEED the assistance of "old-timers". By this I do not necessarily mean those who have held their licences since "the year dot". I do mean, however, active and competent amateurs of experience.

The newcomer has to learn the ways of amateur radio, the procedures and the standards and the various gentlemen's agreements about such things as band plans, correct repeater operating procedures, etc.

Recently, only a few clubs are providing "hands-on" practical experience in their training schemes. However, there is little doubt that more is still required.

The individual amateur can do much to help the newcomer to integrate properly into the ranks of amateurs. It behoves us all to take a positive attitude—do you qualify?

P. A. WOLFENDEN VK3KAU,
Federal President.

APPRENTICESHIP?

WIANEWS

AX

At the joint WIA/DOC meeting held late in October the Institute's application for the voluntary use of the AX prefix for the period of 15th August to 15th October, 1982, inclusive to mark the occasion of the Commonwealth Games was approved (RB 4/4/4 of 28/10/1981). Another call sign subject—the "C" calls. As previously reported in this column, the intention of the DOC to withdraw the concessions given in 1969 for "C" suffixes has now been confirmed but the 80 or so existing "C" call holders will retain their call whilst remaining licensed. The Institute reluctantly accepted that this exception to the general rule posed administrative problems to the Department "inconsistent with the necessity to concentrate resources for maximum productivity". A short discussion was also held on a suggestion that a special suffix series should be reserved for licences for visiting overseas amateur as applies in New Zealand and many other countries. The question of the attention of visitors being drawn to the Amateur Operators' Handbook at the time of being licensed (either over-the-counter or otherwise) was again brought up and DOC is considering the preparation of a suitable leaflet.

STICKERS

The question of the DOC "sticker" trial being conducted in Tasmania was discussed (see December AR "WIANEWS"). The Institute made it clear that it was desirable to have proper law enforcement but could foresee difficulties with this approach as far as the amateur service is concerned as the amateur licence

does not relate to specific equipment. The whole matter is to be discussed further in detail.

GENERAL

In relation to the new designations of emissions (see AR September 1981, page 26) the Department has issued a statement about this in the form of a leaflet dated July 1981. The leaflet states the effective date is 1st January, 1982.

The DOC advised the receipt of an application for a 28 MHz beacon from a group in West Australia. The Institute pointed out amateur adherence to an international agreement on 28 MHz beacon frequencies so that by orderly application a general state of chaos can be avoided which would not be of benefit to researchers of propagation conditions. The DOC agreed that adherence to such a band plan was desirable.

At this time it is too early to comment on the success or otherwise of the Institute's recruiting campaign using November AR. A few early indications suggest that much interest has been generated. The Institute relies on your good offices to join a member (or more if possible). More members are required so as to spread the financial burdens. Those in the printing trade, for example, will know that the bulk of the costs of the production of a book will be in the typesetting and generally setting up the work—two thousand copies will not cost twice as much as one thousand copies, only the costs of the paper and time for the extra thousand are involved. Not a perfect simile but sufficient to illustrate the point. Please assist.

QRP CW Transmitter with Break-In - Part 2

Draw Diamond VK3XU
43 Boyana Cres., Croydon, 3198

CIRCUIT DESCRIPTION

A Colpitts oscillator at Q1 is adjusted to tune from 28 to 29 MHz, and is buffered by Q2 and Q3. Q4 supplies about 4V P-P across the terminating resistor R18 on the divider board. C18 and D3 clamps the VFO output in order to supply a TTL compatible signal to the divider. U2 through U5 are Schottky flip-flops wired to divide by two. The output of each divider is buffered by an open-collector NAND gate U6 through U8 wired as 50 ohm line drivers. Each buffer is followed by a LPF for each frequency band. A clean sinusoidal waveform of about 2V P-P is obtained at the output of each filter when the dividers are enabled by the keying circuit.

The frequency selected by S1a is terminated by R36 and a proportion is tapped off by level control R37 and applied to the input stages of the output amplifier. The input impedance is high, so negligible impedance change occurs with adjustment of the level control. Q5 through Q9 form a broadband amplifier capable of supplying about 2W output. Each band has its own three-section LPF, switched in

by S1b and c to remove any harmonics produced in the output amplifier. A remarkably clean signal is the result.

Keying control is obtained with a 74123 retriggerable mono multivibrator at U10. When pin 1 is pulled low, Q goes high for a period determined by the delay pot R33. As long as pin 1 is pulled low with keying information, the delay period is placed on the end of the character. When keying stops, Q will go low again and allow the operator to listen on the channel. The Q or Q bar output of U10 is routed via S2 to the first divider U2. So during the receive mode, U2 will not divide, leaving the channel clear of any locally generated signal. The moment the keying line is pulled low, Q will go high and enable the dividers. Q5 supplies a shaped key positive supply to the early stages of the output amplifier resulting in a crisp click-free signal. S2 selects the Q bar output of U10 (always the opposite state to Q) to enable the dividers and facilitate netting without placing a signal on air.

The standard TR switch is simply a small capacitor C71 coupling the antenna to the

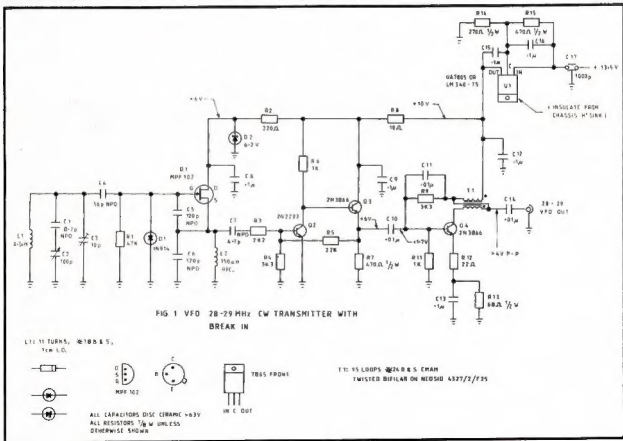
receiver input. A pair of back to back diodes protects the receiver input by limiting the voltage to about 1.2V P-P.

The optional improved TR switch provides better isolation. During receive, Q11 is turned on via R6-, so D9 and D10 are conducting, allowing the received signal to pass from the antenna to the receiver input. When Q of U10 goes high, Q10 turns on and Q11 goes off which opens D9 and D10, thus isolating the receiver from the transmitter output.

If an amplifier is to follow, additional circuitry must be employed to route the antenna to the receiver, as incoming signals cannot negotiate backwards through an external amplifier of course. The author can supply information on how this may be done with the linear described in AR, July 81.

An even simpler approach would be to omit the TR switch and use a separate antenna for the receiver, the input of which must be protected by back to back silicon small-signal diodes.

Part 3 will have construction details and board layouts.



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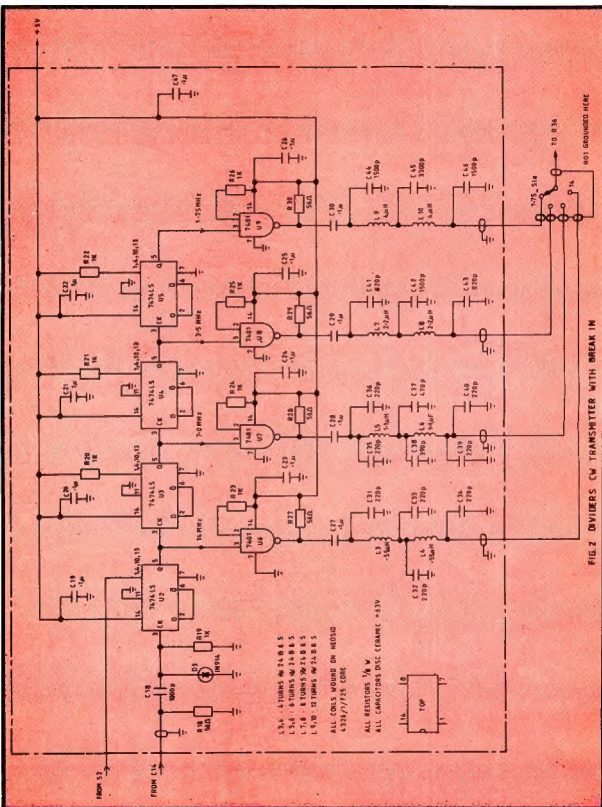
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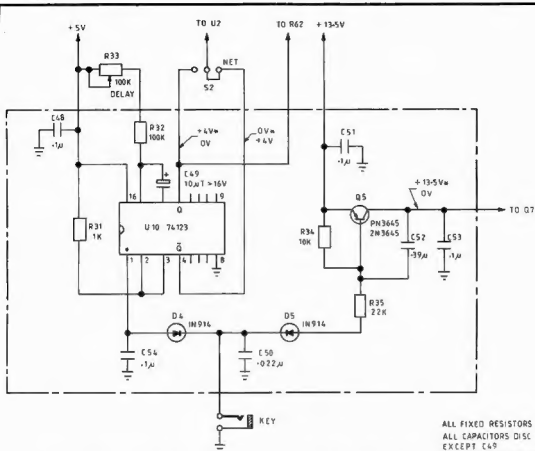


FIG 5 KEYING AND CONTROL CW TRANSMITTER WITH BREAK IN

ALL FIXED RESISTORS $\frac{1}{8}$ W
ALL CAPACITORS DISC CERAMIC > 63 V
EXCEPT C49
COMPONENTS INSIDE DOTTED LINE
ARE ON BOARD

C52— 33μ HARD
 47μ SOFT

*MEASURED "KEY DOWN" INSIDE DELAY
PERIOD



WIA SUBSCRIPTIONS 1982

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JUST A TIP — the subs. notice and the WIA address will appear in the envelopes' window-face. Just slip your cheque behind the notice, stick the flap down, put a stamp on the envelope and post it. Saves you time and effort.

Wealth of Time

If you belonged to a bank that credited your account each morning with 86,400 that carried over no balance from day to day, allowed you to keep no cash in such an amount, and every evening cancelled whatever part of the 86,400 you had failed to use during the day, what would you do? You'd be sure to use up every cent from day to day, of course.

Well, my friend, you do have such a bank, and its name is "Time". Every morning it credits you with 86,400 seconds. Every night it cancels out, as lost, what-

ever this number you have failed to invest for whatever purpose. It carries over no balances. It allows no overdrafts. Each day opens a new account with you. Each night it burns the records of the day. If you fail to use the day deposits, the loss is yours. There is no going back. There is no drawing on the account for tomorrow. You must live the present — on today's deposits. Invest it so as to get from it the utmost in health, happiness, success and benevolence to your fellow man.—ARNS Bulletin, July 1981.

Coming, Ready or Not - 30 m

Ron Cook VK3AFW

On January 1, 1981, a number of countries will grant their amateurs the right to operate on the new 30 metre band (10.100-10.150 MHz). When the Australian authorities issue the band will you be able to use it? This article will have you ready to go when permission is granted.

There are two problems to overcome, getting a transceiver for operation on the new band and erecting a suitable antenna. Once solved then the interesting part, exploration of the propagation, can begin.

THE TRANSCEIVER

Many amateurs already own new commercial transceivers that have the new WARC 79 bands installed. Having found the necessary money to buy such a unit these lucky people can skip on to the next part of the article. It is not too late to update your station and acquire one of the new rigs. As a matter of fact I was tempted to take this line of action. After considering that only one of the three new bands would be available within the near future and hearing of some simple modifications to the FT101 I got out the circuit diagram of my old faithful Ftd x 401 to look at a cheap alternative.

MODIFYING THE FTDx401 AND OTHER TRANSCEIVERS

The modification to the FT101 involves adding capacitance to the driver stage such that the 14 MHz coil is also resonated at 10.1 MHz when the band select switch is in the WWW/JJY position. An extra contact must be added to the PA tank tap switch. This can be held in place by glue and/or a small nut and bolt. Then the tank coil must be tapped, circuits tuned and that's that.

For the Ftd x 401 all the necessary switch contacts are there but an extra coil must be added for the driver stage plate circuit. I keep a selection of ancient valve-type TV chassis in the garage and occasionally find something useful amongst them. A quick look at the chassis on the top of the pile showed that the IF strip used several coils of 7 mm (about 0.3 in.) diameter complete with a metal spring clip mounting similar to that of the other coils in the Ftd x 401. As the coil once operated above 30 MHz it seemed that operation at 10 MHz would be satisfactory. The original winding was removed and 20 turns of 14 gauge enamelled copper wire was wound on and secured with a few drops of nail polish. A 22 pF plastic dielectric capacitor was connected in parallel and the coil temporarily connected to the driver circuit. A dip oscillator was used to set the slug so that with the preselect control set for resonance on receive at 10.10 MHz resonance was also achieved by the driver circuit.

The coil was a sloppy fit in the spare hole in the bracket provided for the auxiliary bands in the 401, so a little glue

was applied and allowed to dry. Flying leads previously connected to each end of the coil were trimmed and one connected to the unused WWW/JJY tab of switch S1h and the other to the B-J copper foil.

Next a neutralising circuit capacitor was fitted. I used a 35 pF (33 pF nominal) silvered mica capacitor from the junk box. This was fitted between the appropriate tag of S1j and ground.

Next the PA. The 14 MHz band was tapped (S1m) at 6 turns and the 7 MHz band at 9 turns. Drawing a graph of turns against frequency indicated that 7½ turns were required for 10 MHz. I decided to try 7 turns as it is inconvenient to connect to anything other than complete turns.

When the set was modified for 160 and 11 metres (AR February 1976) the two parts of the variable loading capacitor were connected in parallel. If extra PA tuning capacitance was required I could use S1k or else change the PA tap.

Subsequent tests with the dummy load showed similar meter readings and similar power output and efficiency as for 7 and 14 MHz. A slight adjustment to the slug in the new driver coil was required. The signal as copied in an R1000 receiver was clean, so all seems well.

There are many Ftd x 401 and similar transceivers that could be modified in the fashion described. For units without an auxiliary band position or a WWW/JJY 10 MHz position an examination of the circuit may give you some alternative ideas. For example with an FT200 you may be prepared to sacrifice the 20 or 15m band and wind new coils on the existing formers. The older transceivers could have a new lease of life as roll off of sensitivity as occurs on 28 MHz will not be a problem on 10 MHz. (Refer also AR October 1981)

THE ANTENNA

The G5RV

If you have a G5RV coupled to an ATU then, providing the ATU will tune at 10 MHz, you have a very useful 30 metre antenna. The flat-top will be 1 ½ λ long. The 34 feet long open wire feeder section is 0.37 λ long, so the feed impedance here will be high as the length of feeder plus half the flat-top is 0.92 λ. The radiation pattern will be of four main lobes inclined at about 45 degrees either side of the wire axis. The flat-top should be as high as possible, 8 metres (about 25 ft.) being the minimum useful average height.

The 80 Metre Dipole

An 80 metre dipole, resonated on a frequency of 3.6 MHz, is about 14 λ long at 10.1 MHz. The feed impedance will be much lower than for the G5RV but an ATU will still be necessary for a good match to the transmitter, although it may be possible to get proper loading with the pi coupler in older rigs. The horizontal radiation pattern will be similar to that of the G5RV except that two narrow lobes at right angles to the wire will now also be apparent.

A Half-Wave Dipole

Table 1 gives the nominal sizes for a half-wave dipole and Fig. 1 shows a method of construction. The plastic sheet used to provide the centre insulator should be 5-10 mm thick. This sheet also provides a means of anchoring the coax. The holes for the dipole wires should be about 4 mm diameter and have their edges well chamfered. The holes for the coax should also be chamfered and be big enough so that the coax slides through without being either loose or too hard to pull through. Silastic should be used to prevent water entering the coax and to provide protection against fatigue for the connections to the d.pole. Be liberal with the sealing material and stick the inner conductor and braid to the plastic sheet about halfway to the dipole.

A Quarter-Wave Vertical

A 7.0 metre long tube driven against four radials each about 7.2m long will provide good DX capabilities. As with all verticals, the radiator must be clear of tall trees (and/or your tower) and at a height such that the radials are clear of other wires, etc. If the radials are detuned the resonant frequency, impedance radiation pattern (and hence performance) are affected.

The W8JK on 10.1 MHz

Fig. 2 shows the dimensions for one form of the W8JK antenna. A gain of 3.5 dB can be obtained compared to a dipole. The antenna has two lobes at right angles to the line of the wires. This antenna can be used over a frequency range of 2.5 to 1, so it would cover the existing 14 MHz and 21 MHz bands as well as 10.1 MHz. Further details on this antenna are given in the RSGB Amateur Radio Handbook. For example, by increasing the elements spacing to about 8.5m a match (at 10.1 MHz only) can be obtained for 50 ohms.

Frequency (MHz)	10.10	10.125	10.150
Half-wave length	46' 4"	46' 2½"	46' 1"
	14.13m	14.09m	14.06m

TABLE 1: Resonant lengths of wire dipoles for the 30 metre band. Lengths calculated

from $l = 468/F$ (MHz) for l - length in feet.

from $l = 468/F$ (MHz) for l - length in feet.

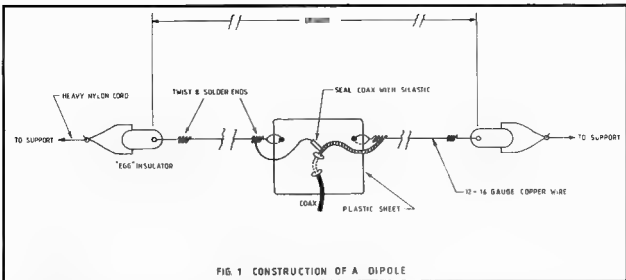


FIG. 1 CONSTRUCTION OF A DIPOLE

Beams for 10.1 MHz:

Other multi-element antennas such as yagi and quad types are of course quite feasible on this band but most city dwelling amateurs will find the size too great — element lengths of over 14m or even quad sides of over 7m are daunting. The quad is perhaps acceptable in some QTHs. The W5JK can be built in tubing in a rotatable form to allow multi-band operation, although a modified triband yagi with loaded elements for 10.1 MHz could be more attractive.

There is another alternative — the G4ZU X-beam (see AR February 1978). I have used this with success on 20 metres and

while probably not quite as good as a full size beam it gave very competitive results. Fig. 3 gives suggested dimensions. The driver element may be fed via a 1:1 balun from 50 ohm coax and a 350 pF receiving type capacitor connected across the centre of the director and adjusted for best front-to-back ratio. The turning radius is less than that of most triband yagis. The elements are insulated from the casting by lengths of plastic garden hose.

What antenna shall I use? Probably a dipole with traps to allow operation on 10.1, 7 and 3.5 MHz and arranged in an inverted vee configuration. I do still have an X-beam casting so this may rise into the sky once again.

PROPAGATION

The propagation to USA and Japan is already well understood, thanks to WWV and JYJ. Propagation at very good strengths is available from late afternoon (local time) on into the morning during sunspot minima. It is more erratic during the sunspot peak but, like 20 metres, will provide excellent signals into all parts of the world for considerable periods of time.

Single hop propagation will extend to 3,000 km for the E layer and 4,000 km for the F2 layer.

The band should provide good daylight signals around VK, ZL and perhaps as far as KH6 for the eastern States and as far

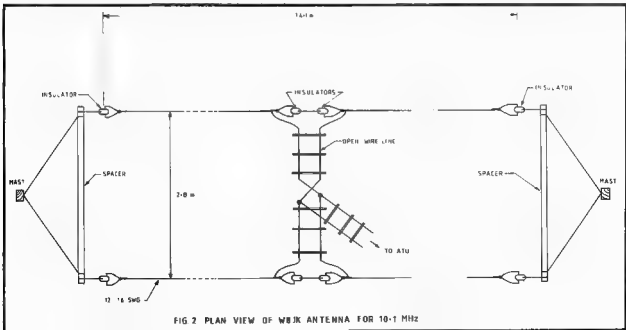


FIG. 2 PLAN VIEW OF W5JK ANTENNA FOR 10.1 MHz

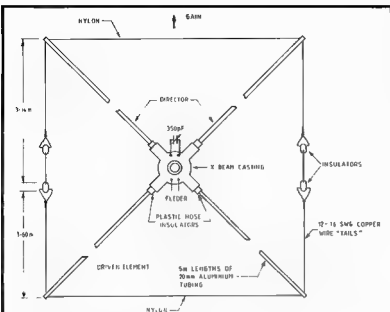


FIG 3 PLAN VIEW OF G42U X BEAM FOR 10-1 MHz

NYLON TUBES TO THE CENTRAL MAST WILL BE REQUIRED TO STOP THE TUBING FROM SAGGING, WIRES FROM THE ELEMENTS PASS THROUGH GROMMETS IN THE CASING

as 9V1 and DU to the north for amateurs in the southern capitals. Night time signals, particularly as the sunspot count declines, will probably provide more DX than any other band.

CONCLUSION

Yes, the 30 metre band is coming. It will be an exciting and useful addition to our bands. Will you be able to have a contact with me when the band is opened to us? ■

BOOK REVIEWS

"PROJECTS IN AMATEUR RADIO AND SHORT WAVE LISTENING"

By F. G. Rayer G3OGR. Newnes Constructor's Projects series, edited by Philip Chapman.

Published by Butterworths. 90 pages, limp binding, Australian recommended price \$8.95. Our copy from the publishers.

Although small by comparison with many of the amateurs' sources of information, this book could be of interest and benefit to the keen short wave listener or budding Novice. It comprises detailed constructional information on various simple receivers and receiving accessories for the HF and 2 metre bands, plus a tunable VHF super-regenerative receiver. Construction is mostly on matrix boards of the foil-strip variety, thereby avoiding the problems, for a beginner, of artwork and etching.

The simplest project described is a general-coverage antenna tuner, while more elaborate items are a 2 metre converter with five transistors and a direct-conversion receiver for 60 metres, likewise using five transistors but a little more complex mechanically.

The first chapter deals with the frequency spectrum, summarises propagation characteristics of the amateur bands, and gives a brief introduction to amateur radio, while the second chapter describes various antennas practical for the SWL. Thus, overall, the book is surprisingly informative for its size and could be well worth the outlay, perhaps as a gift for a teenage friend or relative showing some interest in radio.

Also received from Butterworths for review were "Dictionary of Audio, Radio and Video" by R. S. Roberts, and "Dictionary of Telecommunications" by S. J. Aries. Both are most comprehensive. Other dictionaries, including "Dictionary of Electronics" and "Dictionary of Data Processing" are listed on the dust covers, the latter being a 1975 edition, whilst all the others are up to the minute 1981. Both of the hard-covered books for review are priced at \$42.00 each.

VK3ABP.

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- 4 Series Resistance
- 5 Q Factor
- 6 Parabolic Curvature Constant
- 7 Turnover Temperature
- 8 Capacitance Ratio
- 9 Storage Temperature Range
- 10 Operating Temperature Range
- 11 Aging rate
- 12 Shock
- 13 Package Size

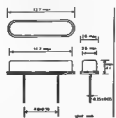
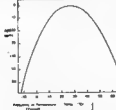
32 768 KHz
+30 ppm/20° ± 1°C
1uW max
31.0 kOhms max.
40,000 min.
Less than -0.04 ppm/°C
(Refer Fig 1)
28.0°C ± 8°C
700 max.
-30°C — +60°C
—10°C — +60°C
Less than +3 ppm/year
Less than 5 ppm for 50 cm
Hammer Shock Test

* WERTZ ELECTRONICS

PERTH 307 6300

* FRED HOG & SONS PTY. LTD.

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DATA SHEET AVAILABLE. ALSO AVAILABLE CRYSTAL UNITS FOR QUARTZ CRYSTAL CLOCK.

The "Trinity/G5RV" Antenna

John Butler VK5NX

From South Australian WI Journal, October 1981

In response to a number of queries, and advance looks, I present the Trinity/G5RV as one of the possible twists to the original Trinity Antenna. For those who do not have the original article as produced in AR, July 1975, with the author's permission, VK5XI, I repeat that article, and draw your attention to the Trinity Loop Antenna as published in the 1981 issue of AR.

THE TRINITY ANTENNA

The name is derived from the fact that the antenna is in effect three antennas in one. The antenna is directionally steerable by switching to any pair of the three radiators forming the array. The antenna system may be used multi-band.

BRIEF DESCRIPTION

The antenna is a horizontally polarised, centre fed, system using three horizontal (or near horizontal) radiators extending out from a central antenna feeder connection point, each radiator is 120 degrees from its two neighbours in a horizontal plane and all are of equal lengths. A switching system is used to select any two of the three radiators. As any two form a slightly bent antenna three different bi-directional patterns are thus available by switching. This switching may take place at the antenna feed point, at the operating position, or at any convenient position between these points.

The main advantage of the Trinity system is that it avoids dead spots in the radiation pattern that occurs with a single fixed horizontal antenna. The Trinity will, when all horizontal directions are taken into account, average about one "S" point better than a single fixed dipole. To equal the Trinity it would be necessary to erect at least three separate fixed antennas occupying extra space and using twice as much antenna hardware.

WORKING THEORY

Under any switch condition two of the three radiators will be combined to form a working antenna and although this is bent at 120 degrees in the centre, it will function quite well in transmission or reception, and thus is subject to equal and opposite fields from them and any RF pick-up from them will be minimal.

Where Trinity feeders are used to reach the switching point, for the reason of the equal-spacing of the wires, little or no unwanted coupling into the unused wire occurs.

It is possible that under some conditions it may be of benefit to ground the unused part of the system either directly or through an inductor or capacitor. However, tests so far indicate no real benefit is derived.

TRINITY FEEDERS

A cross section of a feeder will show a triangle like arrangement of the three wires which are equally spaced from each other.

Low Impedance Trinity feeder can be simply three insulated wires twisted together, household electrical wires rated at about 15 amps is usually suitable. Some types of heavy three wire flex may also be suitable, but before using such a tester test the RF losses at the highest frequency to be used.

Three lengths of coaxial cable running side by side can be used, the three inner conductors go to the antenna radiators and switching terminals and the braids are joined together at each end, and are earthed at the equipment end.

High impedance Trinity feeder can be made by using triangular insulated spreaders with an anchor hole at each corner, or very short pieces of about 50 mm plastic pipe with three anchor holes equally spaced around the circumference.

All the above remarks relate to reasonably low power transmissions. Keep the feeder at right angles to the antenna for as long as possible. In other words run it straight down to near ground level and any horizontal section that may be necessary should not run under one of the radiators.

SWITCHING

Various forms of switching can be used remembering that low impedance means low voltage with high current, and high impedance means high voltage with low current.

Usually it is preferable to do the switching at a low or medium impedance point to avoid high RF voltages across the switch gear. Quite small switches or relays can be used with low impedance circuits, but large high voltage switches or AC contractors may be needed for high impedance circuits.

When relays with long DC lines are used these lines should be broken into non-resonant lengths with RF chokes. A number of examples of switching are shown in the diagrams.

PRACTICAL CONSIDERATIONS

A Trinity antenna can be supported on a single central pole with three equally spaced short anchor posts at equal distances from it at the outer points. Any two radiators in use will form an inverted V type antenna.

Of course the three outer posts can be as high as the centre pole and in this case the three radiators will be horizontal, or if

the outer poles are strong enough the centre pole can be dispensed with and the Trinity feeder can hang from the three radiators suspended in mid span. If you do not have enough space for a completely horizontal design you can bend the outer ends of the radiators down.

Probably the simplest Trinity system is to use a trapped dipole design with a 7 MHz trap in each radiator, thus giving an all band system from 80 to 10 metres with low impedance feed on all bands.

DO NOT USE very long lengths of twisted low impedance Trinity feeder unless you know the losses are reasonable. Use shorter lengths and locate some relays at a convenient point near ground level and then run to the operating point with coaxial cable, connected to the balanced relay switching through a balun transformer.

Any of the above systems will need an ATU if used with modern equipment having no operator adjustable output tuning controls.

USING THE TRINITY ANTENNA

When completed and optimum tuning settings noted for each band you are now ready to do some directional switching and note the results. Do your first tests on reception and then compare reports for the same tests on transmission, usually the results will be very similar.

Be systematic about your testing, firstly name the three directional combinations 1, 2 and 3, and mark the switches so it is obvious what you are using and make a written record of which positions are best on a given band for each call area you normally work.

As you switch directions you may at first be disappointed as you will not get the same spectacular results as rotating a beam, sometimes it will make no difference which position you use, however, on many occasions you will notice a variation of about two "S" points between the best and the worst positions. When this happens you rejoice that you are not limited to a single fixed antenna in the position giving the weakest signal in addition to signal gain sometimes interference can be reduced by switching to a position unfavourable to its reception.

That is Bruce's (VK5XI) Trinity antenna that gave me the idea for the Trinity/G5RV

In my case I use a wooden pole approximately 40 ft tall to support the centre of the array, this allows me to take full advantage of the feeder system without compromise, by using a lesser arrangement, in short, I use a 34 ft. open 3 wire triangularly even spaced, 300 ohm feeder, with about 4 ft. of 3 cores of 23/0076 figure 8 flex as the extension onto the Antenna Tuning and Selector Switch Unit. The three cores may be held together in a number of ways, e.g. short pieces of PVC sleeving spaced evenly along its length, tied with a facing twine or cord, wrapped at even intervals with electrical tape bands, to mention a few.

The antenna's radiators are made from three 53 ft. 6 in. (16 metre) lengths of 3/036 PVC insulated electrical wiring cable as would be used in conduit wiring. The radiator's actual length is 51 ft., the extra 16 in. is to allow for tying off to the insulator at each end and connecting the tuned 3 wire feeder system, making an overall effective antenna length for one half of 85 ft. (for reference see the RSGB Amateur Radio Handbook)

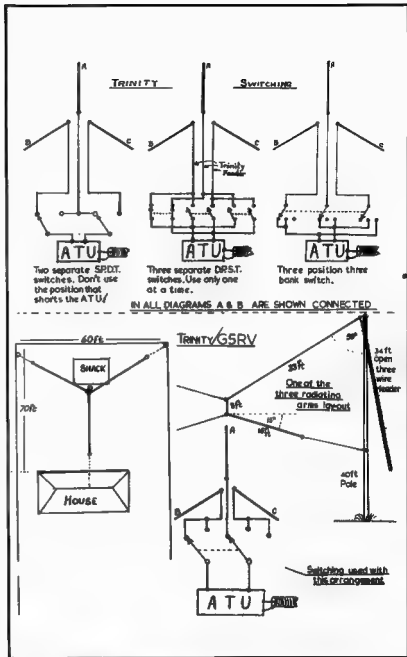
The antenna elements are deliberately bent around to allow the array to be constructed in a limited area, such as a metropolitan domestic block, for details refer to the accompanying sketch.

It will be noted from the sketch that a very simple switch has been constructed to facilitate easy array switching, this was done to overcome the problems associated with using separate changeover toggle switches, no doubt other methods could be devised.

CONCLUSION

This array exhibits all of the original article's benefits and some of its apparent disadvantages, but overall it has UP TO 2 "S" points gain over a single fixed dipole, depending on frequency and vertical angle of the signal's arrival, the higher the angle the less the apparent improvement, but the Trinity System under these conditions allows some reduction of local QRN and QRM by selective nulling, this in turn gives an apparent improvement in signal to noise.

As mentioned by the author of the Trinity antenna this array will fill in many gaps left by a single fixed dipole, but will not be able to perform better than a rotary beam, but it can operate on more bands than a beam!



ZZV ties the Knot

Much travelled and well known NSW amateur Grahame O'Brien and his wife Judy were married at Kurri Kurri on 9th May, 1981. Grahame is pictured with friends and guests, including 14 licensed amateurs! (Left to right) Rear: Paul Huntington VK2AGG, Dave Bartlett VK2BIF, Ray Dixon VK2KX, Bob Butler VK2ZRN/VMC, Ian Ryfe VK2ZIF, Noel Bailey VK2BNP, Greg McMahon VK2AAG. Front: Phil Wate VK2DKN, Phil Smith VK2CBX,



Grahame O'Brien VK2ZZV, Greg Leeman-Vah VK4AML, Greg Evans VK2ZEZ, Widge Lowe VK2ZWL, Barry Wilson VK2BBA.

Grahame is well known for his activities on both 2 and 6 metres. He was almost a permanent fixture on Channel 8, Sydney, until he moved to Newcastle and was responsible for the 6 metre beacon on Vanuatu (formerly New Hebrides), where he and Judy spent their honeymoon.

VK2BBA

VK2 MINI BULLETIN

FIFTH CONFERENCE OF CLUBS

The 5th Conference of Clubs was scheduled to be held on Sunday, 1st November last, at Wollongong. Only nine of the 32 clubs affiliated with the NSW Division were represented, being Goulburn, Hornsby, Illawarra, Orange, Liverpool, Mid South Coast, South West, Southern Highlands and Wagga. Four Divisional Councillors, Sue Brown VK2BSB, Steve Pall VK2VHP, Dave Thompson VK2BDT and Athol Tilley VK2BAD attended as spectators.

As a quorum did not exist, the 5th Conference of Clubs could not proceed and an informal meeting discussed the circulated agenda. The Dick Smith 1981 Educator of the Year Award for that person making an outstanding contribution to amateur radio education was awarded to Kim Stevens VK2ASY of Orange ARC. Goulburn ARS was awarded an SC9 UHF transceiver in recognition of the increase in WIA membership amongst members of that club — 93 per cent are WIA members (See Front Cover.)



Kim Stevens VK2ASY, winner of 1981 Dick Smith Educator of the Year Award.

The Sixth Conference of Clubs will be held in Sydney on Sunday, 23rd May next. The host club will be Liverpool ADARC. Thanks to those clubs who made the effort to attend the 5th Conference, despite the fuel problems. Special thanks to Illawarra ARS for arranging an excellent venue and for the conduct of the meeting. (Submitted by Athol VK2BAD, Affiliated Club Liaison.)

BROADCASTING

The second and final stage of the new Dural studio facilities consists of a micro-processor controlled engineering console which is located in a separate booth adjoining the announcer's booth. This has streamlined broadcast operation and thanks



(Left to right): David VK2BDT, Frank VK2VGX, Roger VK2ZTB, Steve VK2VHP, Athol VK2BAD, Jeff VK2KBK.

must go to the members of the Dural committee who have spent many hours designing, building and installing the system, in particular Doug VK2ZYM (now moved to VK5) and Jeff VK2BYY.

Thanks to those members who have volunteered to assist the broadcast as announcers or engineers each Sunday. More volunteers are always welcome, and visitors are welcome at Dural on any Sunday at either 11 a.m. or 7.30 p.m. We will be celebrating the 25th anniversary of the opening of Dural VK2WV this year, in either May or June, and this will coincide with the annual fireworks display.

QSL BUREAU

The Bureau, located at Westlakes Amateur Radio Club, York Street, Teralba, now conducts half-yearly clearouts in May and November to both members and overseas bureaux. In order to speed up turnover of cards at the Bureau, all users are now issued with return, self-addressed envelopes of a standard size in strong kraft paper. QSL Officer Doug VK2AV has made more sorting shelves which allow several sorters to work at one time, so if you're in the area any Saturday, why not call in and assist for a few hours. Visitors are always welcome at the club and, if handsome, might even be offered a cup of tea and a biscuit. The club's phone number is (049) 58 1588.

VRANA CLUB

Club meetings are now held on the last Wednesday of each month. Last November the club was successful in obtaining a local Novice exam for about 20 candidates in Dubbo. Many club members participated in JOTA and had many good contacts — calls participating were VK2s, BEO, VJV, VJC, DGX, DNN, KCE, EDN and VEH. A display was set up in Wellington in October by VK2s, ZMT, BEO and BJA, so

there are probably many prospective amateurs in the area as a result of the efforts of the club. (Submitted by Jim VK2AJO.)

DISPOSALS

The Division has for sale to NSW members ONLY for their private use packs of the following components. Each pack costs \$1, or 11 packs for \$10. Postage for packs 1 to 10, add \$1, for more than 10 packs, add \$2. Please send your order, specifying first, second and third preferences, to Disposals Officer, PO Box 123, St. Leonards 2065 with cheque made out to WIA Disposals.

Pack A: 5 x 40 pin Mo ex IC sockets
pack B: 5 x 24 pin Mo ex IC sockets
pack C: 5 x beehive trimmers 5 to 25 pF
pack D: 25 x .0047 uF Sprague resin dipped caps;
pack E: 100 x .047 uF 50 V disc ceramic caps;
pack F: 50 x .1 uF 16V disc ceramic caps;
pack G: 25 x 1 pF disc ceramic caps;
pack H: 25 x 4.7 pF disc ceramic caps;
pack J: 25 x RFC 1.5 uH;
pack K: 10 x TO3 transistor sockets (suit 2N3055);
pack L: 10 x 4.7 uF 200V non-polarised caps;
pack M: 10 x octal valve sockets;
pack N: 5 x 5k 1W Colvern wirewound pots, 1/4 in shaft;
pack P: 5 x 5k 2W Colvern wirewound pots, 1/4 in shaft;
pack Q: 15 x useful assortment of electrolytic caps (e.g. 1000 uF 16V, 1000 uF 25V, 2000 uF 10V, 100 uF 83V, 33 uF 50V, etc.).
The Division still has a few 10m crystals, pairs for 28 345 MHz (receive crystal 27 89 MHz) at \$1 40 per pair posted. Add \$1 for each additional pair of crystals ordered.

TOWERS TOWNS

Many thanks for recent donations from Coffe Harbour and District Radio Club \$28, Bill Parker VK2VDI/ZG \$10 and A. Gray VK2IJ \$20. Thanks also to Handicapped Aid Programme for a donation of \$50 for IYD.

Details of four clubs affiliated with the NSW Division —

ILLAWARRA AMATEUR RADIO SOCIETY

PO Box 1838, Wollongong 2500.

Nets: Sundays, 8.30 a.m. on 52.525 MHz and 8 p.m. on 3.565 MHz; Tuesdays, 8 p.m. on 28.46 MHz

Meetings: 2nd Mondays, 7.30 p.m., at Congregational Hall, Coombe and Market Streets, Wollongong.

Classes: AOCOP and NAOCOP at Wollongong Technical College, Fridays, 6-8 p.m.

President: K. Curle VK2OB, Vice-President: R. Dorin VK2VOF, Secretary: D. Meyers VK2PBP, Other Committee: G. Cuthbert VK2ZHU, M. Keach VK2VXS, E. Flen VK2YVF, J. Taylor VK2JT, D. McKay VK2DRM.

Magazine: The Propagator, edited by B. Wade VK2AXI monthly.

Repeaters: VHF VK2RAM 6850, UHF VK2RUW 8225. Relays of Divisional broadcasts

WESTLAKE AMATEUR RADIO CLUB

PO Box 1, Teralba 2284

Nets: Thursdays at 8.30 p.m. on 28.475 and 3.565 MHz using VK2ATZ. Relays of Divisional broadcasts followed by club news at 11.45 a.m., and 7.45 p.m. Sundays on 1812.5 MHz and rep. ch. 7100.

Meetings: Club rooms, York Street, Teralba, Wednesdays and Saturdays

Classes: AOCOP and NAOCOP at club rooms, Wednesdays and Tuesdays, 6.30 p.m.

President: K. Howard VK2AKX; Secretary: E. Brockbank VK2KEB, Other Committee: M. Hall VK2DCW, J. McLachlan, G. Taylor, D. Pearson VK2 AVO.

Magazine: Monthly Newsletter, edited by E. Brockbank VK2KEB Every month except January.

Repeater: VHF VK2RTZ 7100 at Bar Fire Tower, Walsgan Range, time out 2m 30s, ERP 5W.

Publications: QSO JA Now, Ham Exam Cram Book, Questions and Answers for the Novice Licence

Operate the VK2 QSL Bureau on behalf of the NSW Division, QSL Officer: D. Pearson VK2AVO

HORNSEY AND DISTRICT AMATEUR RADIO CLUB

PO Box 362, Hornsby 2077.

Meetings: Hawkins Hall, Sefton and Lockerville Streets, Normanhurst, first Wednesday, 8 p.m.

President: David VK2NOB/YLX; Vice-President: Gerry VK2BMZ; Secretary: David VK2YME; Other Committee: Nick VK2VOS, Chris VK2YMW, John VK2DOK.

Repeaters: VHF VK2RCW (beacon sending various speed Morse), Normanhurst 7400. VHF testing VK2RNS 7250.

PARKES AND DISTRICT AMATEUR RADIO CLUB

247 Clarinda Street, Parkes 2870.

Meetings: Red Cross Rooms, Church Street, Parkes, on second Tuesday.

Classes: NAOCOP weekly.

President: D. Cooper VK2DHR; Vice-President: R. Swindley VK2DDO; Secretary: T. Darcy VK2DDD, Other Committee: B. Cooper VK2DHO, P. King VK2VJQ, J. Meagher VK2AMV, P. Scarlata VK2DQA.

COMMING EVENTS

21st February (Sunday): Gosford Field Day, Showground Road, Gosford. Disposit lot numbers from Bill Smith VK2TS at RMB 4525, Gosford, or phone (043) 74 1207 AH.

25th February (Thursday), 10 a.m.: Close of agenda for Divisional AGM and of nominations for Council 1982/83.

27th March (Saturday), 10 a.m.: Annual General Meeting of NSW Division.

Members and clubs are invited to submit news for inclusion in this column. News for April AR must reach Box 123, St. Leonards 2085, by 27th February
Susan Brown VK2BSB.

VK4 WIA NOTES

ANNUAL GENERAL MEETING

The Divisional Annual General Meeting will be held in conjunction with the February General Meeting on 19/2/82 at the Playground and Recreation Association Hall, corner of Love and Water Streets, Fortitude Valley. The order of business will include the presentation of the annual report and the election of the 1982 Council. This is the time of the year for reviewing progress

and re-establishing priorities. What do you think? Has your Council achieved the things you wanted it to during the past year? Perhaps not. You can help achieve this year's aims by getting involved directly with your Council or at the very least by supporting its activities. It is better to take this constructive approach than to sit back and complain. There are plenty of tasks associated with WIAQ activities and "many hands make light work".

JANUARY GENERAL MEETING

The first meeting of the year will be held on 15/1/82 at the address given above. Doors open 1930K. Members and v.sitors are welcome.

RADIO CLUB WORKSHOP

The 1982 Workshop is being planned for mid-April and again all affiliated radio clubs are invited to send representatives to this important event. A number of club motions have been received and circulated for discussion already. As Federal Convention motions come to hand, they will also be circulated to affiliated clubs for discussion amongst members prior to the Workshop. This is your opportunity to be involved in the decision making processes of the WIA — make the most of the opportunity when the matters are raised at your club meetings. Non-club members should listen to the News Service which will also present Federal motions as they become available. The Workshop committee is currently involved in finalising venue, catering and other planning arrangements.

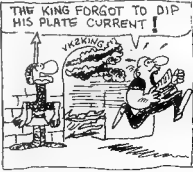
HISTORICAL

Council is currently investigating the feasibility of producing a "History of Amateur Radio in Queensland" and needs input from "old-timers" and others regarding information on our heritage in Queensland. Readers of QTC will have noted with interest the regular column from Peter VK4PJ on this topic. Do you have any data, equipment, anecdotes, etc., that can help in this task? If you have, let us know. Tomorrow may be too late.

FIELD DAY

When was the last time you tried out your portable WICEN equipment? Is it still portable? Get it back into tip-top condition for the National Field Day in February — don't forget your wet weather gear as all Queenslanders know what happens EVERY National Field Day.

VK4DT.



From "The Propagator", Sept 1981

WA BULLETIN

Hi there! A very happy and prosperous New Year to you, may 1982 bring you all that you would wish yourself

The saddest tale to come out of the usual run of hard luck Christmas yarns concerns the local amateur who, in the months preceding the festive season, had been giving hints to all members of his family that he would really like the bewhiskered old gentleman in the red trappings to leave him a new "black box". Well, to make a long story even longer, when he awoke on Christmas morn and checked his presents there was a black box — but not quite what he had been hoping for — the black box contained a "Rubiks Cube". Some families just can't take the hint, can they?

By the time you read this the life of the current Council will nearly have run its course — only a couple of months to go. Nevertheless, by popular request, herewith a list of those people who actually work for the Division and are prepared to put their collective necks on the chopping block. All are QTHR

President Mr. B. Hedland-Thomas VK6OO.
Vice-President: Mr. R. Greenaway VK6DA.
Secretary: Mr. F. Parsons VK6PF.
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Federal Council: Mr. N. Penfold VK6NE.
Book Sales: Mr. C. Dodd VK6DV.
Disposables: Mr. A. Baxter L60213.
WIGEN Co-ord: Mr. S. Jenkins L60205.
Treasurer: Mr. C. Bastin VK6NLZ.
Council or: Mr. A. Maschette VK6ZGA.
Awards: Mr. G. Nicho s VK6XI.
Video Library: Mr. C. King VK6ZCK.
Broadcast Officer: Mr. D. Gordon VK6ZMG.
Council or: Mr. R. Cant VK6FE.
Scout Liaison: Mr. L. Ball VK6AN.
JOTA Comm's: Mr. P. Hughes VK6HU.
W Co-ord.: Mr. D. Couch VK6WT.
Catering: Mr. D. Lorimer.
WIGEN Net Cont.: Mr. D. Re mann VK6DY.
QSL Bureau: Mr. J. Rumble VK6RU.

Slow Morse Co-ord.: Mr. C. Rutledge VK6CR.

Auditor: Mr. F. Taylor VK6JK.
Auditor: Mr. A. van den Avoort, VK6HA.
Contests: Mr. C. Waterman VK6NK.
Repeater Gp.: Mrs. G. Weaver VK6YL.

Congratulations to those hardy perennials, the VK5 Division, on yet another win in the RD Contest. Perhaps this year VK6?

The recently initiated drive for new members appears to have so far been successful, with 25 new members as a direct result. It also stirred a number of old members into rejoining. Let's hope the new members keep on rolling in.

At the time of committing this to paper the group of Cocos-Keeling are pointing their radio ears in the direction of Perth. They are monitoring Channel 4 on 2 metres. Let's hope they get a lucky break. Perhaps there will have been an opening by the time this reaches you.

What about send ng off an intruder Watch report each month? (That would be a great New Year's resolution.) Dave VK6WT tells me that regular reporters are few in number. I'm convinced that the cursed "Woodpecker" has been breeding; its offspring seem to be increasing in number and offensiveness.

It's almost time to be filling in Nomination for Council forms again, so cast an eye around for any likely starter and start to twist an arm.

One of my spies was trying to send me a smoke signal, but there was a lot of QSB — it was a very windy day — and I was not copy ng too well. Something about the possibility of a new record being claimed for a contact on 2 metres FM from Darwin to Japan. Perhaps more of this later, but for now best 73

Ross VK6DA.

A Call to all holders of a

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THE COURSE SUPERVISOR, W.I.A.

P.O. BOX 123,
ST. LEONARDS, N.S.W. 2085

WIA SUBSCRIPTIONS 1982

Do not throw the window-face envelope away. You can re-use it to send off your cheque and notice which has the WIA address printed on the reverse.

WIA FEDERAL DIRECTORY

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VK5 — Mr G. Preston VK5PI

VK6 — Mr N. R. Penfold VK6NE

VK7 — Mr P. Fudge VK7BQ

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VK2 — Mr W. A. Watkins VK2EW

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VK5 — Mrs. J. M. Warrington VK5ANW

VK6 — Mr B. Hedland-Thomas VK6OO

VK7 — Mr M. J. Hennessy VK7MC

VHF-UHF AN EXPANDING WORLD

Eric Jamieson, VK5LP
Forrester, S.A. 5233

VHF/UHF BEACONS

For 28 MHz beacons refer October 1981.

Freq.	Call Sign	Location
50.005	H44HIR	Honiarua
50.008	JA2IGY	Mie
50.020	GB3SIX	Anglesey
50.023	H22PR	Haiti
50.025	6Y5RC	Jamaica
50.035	ZB2VHF	Gibraltar
50.036	HC1JX	Quito
50.038	FY7THF	French Guiana
50.040	W6AMHZ	San Diego
50.048	VE6ARC	Alberta
50.050	ZS3E	South Africa
50.060	PY2AA	Sao Paulo
50.070	VP9WB	Bermuda
50.070	YVZZ	Caracas
50.080	TJ2NA	Costa Rica
50.088	VE1SIX	New Brunswick
50.100	KH8EQI	Pearl Harbour
50.498	5B4CY	Cyprus
51.022	ZL1UHF	Auckland
52.013	P29SIX	New Guinea
52.150	VK5KK	Arthurton
52.200	VK8VF	Darwin
52.250	ZL2VHM	Palmerston North
52.300	VK8RTT	Perth
52.320	VK8RTT	Carnarvon
52.330	VK3RGU	Geelong
52.350	VK8RTU	Kalgoorlie
52.370	VK7RST	Hobart
52.400	VK7RNT	Launceston
52.420	VK2WI	Sydney
52.425	VK2RQB	Gunnedah
52.435	VK3RMV	Hamilton
52.440	VK4RTL	Townsville
52.510	ZL2MHF	Mt. Clime
144.400	VK4RTT	Mt. Mowbray
144.420	VK2WI	Sydney
144.475	VK1RTA	Canberra
144.550	VK5RSE	Mt. Gambier
144.600	VK6RTT	Carnarvon
144.700	VK3RTG	Vermont
144.800	VK5VF	Mt. Lofty
144.900	VK7RTX	Ulverstone
145.000	VK8RTV	Perth
147.400	VK2RCW	Sydney
432.410	VK6RTTY	Carnarvon
432.440	VK4RBB	Brisbane
432.450	VK3RMB	Mt. Bunning

* Denotes change of call sign.

† Denotes a new beacon.

Confirmation of the operation of the Gunnedah beacon comes from Jock VK2QX, who corrects the call sign to VK2RQB and advises the beacon is presently running with about 6 watts output to a vertical antenna with ident every 30 seconds in A1 mode. There are plans to change the antenna to either crossed dipoles or halo type for horizontal polarization. Location on a hill just south of Gunnedah about 600 feet a.s.l. with a good 380° outlook.

Barry VK2KAY (ex ZAY), John VK2SI, Rob VK2YAP have all been involved in the project, while Reg VK2ZCK donated some parts and the case. Reception reports would be appreciated, please, to Jock Watson VK2QX, PO Box 639, Gunnedah, NSW 2380.

NEW 70 cm BEACON

I note from the pages of the West Australian VHF Group Bulletin a brief reference to the inauguration of a new beacon at Carnarvon on 432.410 MHz and that it was putting strong signals into Perth. That's not bad considering the distance is close to 1000 km! No details were given of call sign but I guess it will carry the usual VK6RTT call sign. Would be pleased to hear from someone in Carnarvon with full details please.

Whilst still in the West, I note the Albany beacons are not presently operational due to the Defence Forces having taken over the existing site. Frenchmen's Bay (that would be a good site . . . 5LP) and Mt. Barker have been suggested as alternative sites, according to information in the VK6 Bulletin.

As a matter of general interest, the Albany 2 metre beacon has for years been the most consistent beacon to be heard in the Adelaide area, despite its long distance, and one of the most difficult beacons to hear in Adelaide within acceptable range is VK2RTG on 144.700.

Finally, I still make further plea for the custodians of those beacons which have not replied to my requests for information about their beacons to try and get the information to me as soon as possible, it is now over 12 months since I first asked for this information.

6 AND 2 METRE STANDINGS

First response to information for a possible "Standings Box" has come from Andy VK2DUX covering his operations from Carnarvon as VK8OX. Over the next few months I hope enough of you will be sufficiently interested to send in the details required. e.g. Your call sign, call sign of station worked, country, date worked, confirmed by QSL or not. Let's try it for six metres first, as a different set of requirements would exist for 2 metres. So who is the top Australian operator with the most countries worked on 6 metres 52 to 54 MHz or split frequency to include 50 to 52 MHz (please say if split operation)? No cross-band to 28 MHz or other bands at the moment.

BUZZLE FROM OODNADATTA

Clarry VK6KL has written to confirm last month's mention of operation from Oodnadatta in the far north of South Australia by Graham VK5GW, who will be there for 12 months. Graham apparently opened the account on 28/10 by working one JA at 0712Z, then followed this on 28/10 by working a further 33 JAs from 0929Z on 52.050 MHz. That's a good start and with the approaching Es period contacts should be made far and wide. We will be looking forward with interest to any possible 2 metre contacts before long.

432 MHz ACTIVITY

The 70 cm band seems to be taking on a new life at the moment in VK5. A number of new stations have come on recently and include Garry VK5AS at Cowell, Don VK5ZRG at Whyalla, David VK5KK at Arthurton, Mark VK5AYQ Adelaide, Bob VK5ZRO and Steve VK5AIM at Elizabeth, David VK5CK at Craferia (renewal only at the moment), and there are probably others now joining the ranks. The VK5L establishment find the path to Garry VK5AS via the 60 dB attenuator (hill) really knocks signals about and on a recent test when 70 cm signals were 9+ on the Adelaide plans from Cowell, they were barely audible at my QTH. However, looking south to David VK5CK I was able to reduce my 70 cm signal down to m.l.watts and still be received, so air is not lost! Bob VK5ZRO has a prime location for working north and west and is having considerable success on 70 cm to Cowell and Whyalla, plus is also able to work me via the 60 dB attenuator! Distance to me . . . 20 km!

While we are looking out into the sticks mention should be made of Irwin VK5KES, who is at Port Lincoln and looking for 2 metre contacts.

HARGRAVES WRITING

An interesting letter comes to hand from Neville VK2QF of Hargraves, a long way north-west of Sydney, and includes a very fine list of 52 MHz countries worked, which will certainly be listed if we can get the "Standings Box" going. But he agrees with me we would like to hear from such operators as VK8GB, VK4RO, VK5RO, VK5KK, VK3AMK, just to mention a few; there are many others in the very successful class. I already have a long list of countries from VK3OT, so what about it, chaps, he is going to be hard to beat!

Neville writes "On the topic of QSLs, VK stations are the worst "QSLers" from anywhere. I have 180 cards out to "QSL Guaranteed" QSOs and only 49 in the shack after three years, pretty poor for people trying to get the VHFCCI. No luck so far with H44DX despite three letters and nine IRCs, but generally the overseas stations are pretty good for returns.

"Six metres here this equinox has been slow after Ea to VK3, 5 and 7 on 2/8/81 after which I shifted out of my bedroom shack to a garden shed 100 metres up the hill behind the house. (Five trips to shack = 1 km. Self-inflicted says the XYL.) Extended my tower 6 metres higher now to 17 metres high, so see out of the gutter a little better now!

"10/9: JA7, 20/9: JA8, 3/10: JA1, 7, 8, 9, 0 for 28 QSOs. 10/10: Heard WATNV/KL7 at 529 RST on 50.110, later heard working VK3s, JA1, 2, 7, 8 for 18 QSOs. 15/10: JA8, 19/10: JA7, 8, 23/10: JA1, 2, 3, 8 for 12 QSOs. 27/10: JA1

"So that's the activity here so far, but I am hearing on 10 metres that VK4 and northern VK2 are making regular contacts to W6, etc., so it may be better in November for the southerners! I hope to give the Ross Hull Contest a thrashing again this year, maybe boosted again by several

hundred JAs. Possibly a lot of 6 metre operators may not have bothered if not for IC502s and good JA conditions to give encouragement.

"Here are some more QSL addresses which should be of help to those trying to get their cards in." Thanks for writing, Nev.

QSL INFORMATION FOR 6 METRES

AH6A Via WB6FBN, John Dotman, 5521 Sagittario Way, Citrus Heights, California 95610 (This as per call book but no return so far)

AH2K J. E. McDermott, 19 Cherry Blossom Lane, Letts Heights Estates, Guam, Mariana Is. 96913. (Cards for KG6DX and KG6JDX as well as AH2K can generally be sent together as all use same work QTH to swap cards, etc.)

WA6BYA, R. C. Sohl, 1101 Martin Road, Santa Cruz, California 95060

K6FV: V. R. Frank, 12450 Skyline Boulevard, Woodside, California 94062.

WA4TNV/KL: C. Lane, Box 444, APO, Seattle, USA 98736

XE1GE: J. W. Lord, PO Box 875, Cuernavaca, MOR, Mexico

H44DX W. Elton, PO 332 Honiara, Guadalcanal, Solomon Islands.

FO2DR, Rene Delamere, Route Dela Point Venus, Mahina, Tahiti

FK8AB: J. Duplat, PO Box 779, Noumea, New Caledonia.

FK8CR: Ed Szymanski, PO Box 544, Noumea, New Caledonia.

FK8BG: Via W7OK (now silent key), QTH as per AR is PO Box 95, Las Vegas, NV 89101.

VS5DX: Via JA1UT, Y. Hayashi, 4-20-2 Niche Gotanda Sh nagawa, Tokyo, Japan

SOMETHING FROM EUROPE

My thanks to Steve VK6AIM who keeps me posted with some of the happenings from the UK and other areas as presented in "The Short Wave Magazine". Here are a few items which may be of interest, and includes just a few happenings related to that peculiar European band of operation, 4 metres or 70 MHz

"Syd Harden G2AXI has been concentrating on 4 metres and has so far got 55 countries and 8 countries this year. The new ZB2VHF 4m beacon on 70.120 MHz has been copied at S9

Ken G5KW is a keen 10/6m crossband operator and has 22 countries and 42 US States worked so far! His 6m station consists of an IC-651 transceiver and Cushcraft 817-EB aerial on a 34 ft boom, with a Yaesu FT820B as a back-up.

John GW3MHW reports frequent reception of ZB2VHF on 50.035 MHz, presently using A1 keying to keep the temperature down. John has been running his 4m and 6m rece vers simultaneously on the ZB2VHF beacons and finds the fading patterns different. He mentions the advantages of having both vertical and horizontal polarization available to combat fading on 6m DX signals.

The Auroral event of July 25th proved to be the largest and most intense one recorded since 1957. Massive M9 flares and 4B optical ones were recorded and there were sudden ionospheric disturbances galore. At the start of the event, the

Meudon A index reached the incredible level of 125. Stations working continental Europe from UK reported the Doppler shift was about 2½ kHz high frequency and the SSB signals spread over 4-5 kHz, wider than the passband of normal transceivers, thus making copy that much more difficult."

A look at the "Standing Book" in the Short Wave Magazine is very interesting. On 2 metres G3BW and G4DEZ have each worked 27 countries, G8VR has 26, G3FPK has 22, and there are many listed from 14 to 20 countries. Goes to show what can be done if you are keen enough in closely settled areas like Europe.

On 432 MHz G8TFI has worked 14 countries, G8HHI has 12, and a number of others around 8, 9 or 10. On 1296 MHz G8GXE heads the list with 5 countries, followed by G3BW with 4. So it looks as though our European brothers have their share of fun, too; in addition they can chase Locator Squares, something which hasn't seemed to interest anyone out here to start.

NEWS FROM SMIRK

The latest newsletter from SMIRK, the Six Metre International Radio Klub, indicates membership of SMIRK now stands at 4315 from all US States and 69 other countries. Recent changes indicate initial membership fees are now \$US6, and there will be an annual subscription of \$US3 all from January 1982. Those present and future new members who pay the \$3 annual dues will receive all SMIRK programmes, and be eligible for awards, contests, etc. They will also receive the newsletter/membership lists on a quarterly basis. Members who do not renew membership in January 1982 will still be members of SMIRK, may continue to pass out their SMIRK number, may participate in the DXDC programme, but will not be eligible for any other awards. They may work the SMIRK contests but will not be eligible to win same as an unpaid member

They certainly get it good in New Zealand, as a SMIRK report from ZL2KT reports last November to March 1981 was super! He QSO'd W5, W6, W7, W8 for 170 QSOs. Needs W1 and W2 for all Call Districts in US. He also got VE1 XE1, KP4, VP1, HB, ZF2, F08, KL7, FKB and V99, all new countries. ZLs can operate on 50 MHz from 1200 to 2235Z weekdays and Sundays; 1200 to 2200Z Fridays only; 1200 to 2300Z Saturday or until 2358Z, depending upon when Channel 1 or 2 TV starts.

Yoshi JA1UT reported the Maldives 8Q7 DX trip a success — had 141 QSOs in 6 countries (YB1CS, YC1BMI, VS6EZ, VS5DX, VS5TX, Z29BFS, BQ7, and JAs). Their CR9JA trip netted 883 QSOs and got VS5, VS6BE, VS6EZ, VK8GB, H44PT, CR9 and many JAs.

Re JA4MBM: On 22/3/81 Hideaki worked VP2VGR, W2HOY/KP4, WD4IYS, BW4OSN, FM7AD to give him 59 countries worked on 6 metres! What a great score. Congratulations, Hide.

Repeat info: Effective 1/2/81 to 31/1/82, PAO are authorised to use 53.875, 53.925 and 53.975, CW only, 25W ERP. As SMIRK

says: "It's better than nothing, I understand there are quite a few interested and on now."

GENERAL NEWS

As you have probably already gathered, there isn't much to report. The fact that practically no one has written indicates the very poor shape of the bands down this way anyway. Openings from time to time to Japan have been the normal thing interspersed with occasional Es openings between various VK States. The almost complete drop off of anything startling from the overseas DX viewpoint has come as a surprise to us down here at any rate. Perhaps March/April next year might see a return to something better with which to finish off Cycle 21. The deadline for copy for this issue being 13/11 also hasn't allowed the collection of some news

You are reminded of two activities taking place soon. Firstly the Geelong Amateur Radio Club sponsored VHF Field Weekend starting on Saturday, 12th December, and finishing on Sunday, 13th December, and being for any 24 hour period during those two days. Rules were published in the November issue of AR. I propose operating portable during that Field Day and I hope a fair sample of other operators will make the effort. I should be operational on 52, 144 and 432 MHz SSB and on FM.

The other item is the Ross Hull Memorial Contest, which starts the weekend before on Saturday, 5th December, and which generally generates a fair amount of operating interest but very little interest when it comes to sending in a log. Please try and do both!

We were all sorry to hear of the accident sustained by Ray Naughton VK3ATN, who had the misfortune to be on his 110 foot tower when it collapsed recently during a gale. At the time of writing Ray is in the Wimmera Base Hospital at Horsham with some broken bones and ribs, and without the feared back injuries at first thought, but he will be out of action for some time and on behalf of all amateurs wish him a speedy recovery.

It appears Ray went up to the 45 foot position on his tower to secure something and was just coming down when a gust estimated up to 100 m.p.h. hit the tower and caused it to collapse with Ray on it, so perhaps he is a lucky man to be alive. Best wishes, Ray, from us all.

It's that time of the year when Es shows its annual improvement, so hopefully operators will be able to catch up with the rest of the VHF gang at some time or other. And don't forget that around the end of January is often a good time for 2 metre tropospheric contacts, particularly along the southern part of the Continent, but in other areas too. And with the upsurge in 432 MHz activity contacts on that band should also be possible, mostly when good conditions exist on 2 metres.

Best wishes to everyone for a happy and prosperous New Year, and closing with the thought for the month "When it comes to giving, some people stop at nothing"

73. The Voice in the Hills.

AMSAT AUSTRALIA

R. C. Arnold VK3ZBB

UOSAT UO9

At the time of writing our newest satellite, JOSAT OSCAR 9, appears regularly as predicted but the only intelligence received is 300 and 1200 band ASCII on the general beacon frequency of 145.825 MHz. The snp fied orbit parameters are - Penod

95 459334 min. -1.6469 $\times 10^{-4} \times N$
Angular Increment
23 910771°W per orbit + 4.13 $\times 10^{-5} \times N$
Inclination 97 4537°.
Eccentricity, 0.0001572
(N is number of orbits)

Some problems have occurred in commanding the spacecraft and difficulty has been experienced in stabilising the craft, probably due to low temperatures, which are between -5°C and -30°C

It is obvious that there will be some delay in bringing the craft into full working order. I will keep these notes brief to permit publication as much data on JO9 as my allocated space permits.

AMSAT OSCAR 8

Continues to operate satisfactorily despite excessive temperature recordings of around 50°C - c.f. UO9!

NETS

AMSAT Australia. Sunday 1000Z, 3680 kHz.
VK3ACR
AMSAT Pacific Sunday 1100Z, 14305 kHz.
JA1YAG
AMSAT SW Pacific Saturday 2200Z, 28880 kHz. W6CG
Ma bourne Sunday 1100° oca. 432.2 MHz.
VK3ZBB

PREDICTIONS

Date	Orb. No.	Eqn. No.	Eqn. No.	UOSAT		
				No.	Eqn.	Eqn.
2 19508	0012	71	1324	0134	159	
9 19507	0043	77	1429	0013	144	
16 19715	0116	86	1535	0026	152	
23 19502	0034	68	1481	0037	159	
30 19900	0034	78	1747	0047	168	

*Provis onal 8 11 81

ACKNOWLEDGEMENTS

VK3ACR, VK3YQC, AMSAT-UK for extracts from the UOSAT Technical Handbook

BYOT FREE

As we go to press, some news has come from AMSAT that the long-awaited launch of the second series of Russian Amateur Satellites is imminent. It is understood that there will be three satellites launched together and probably separated by 120° to give virtually continuous coverage whilst the satellites are in light. Operation will be on Mode "A" as to hows -

Oscar	Up Freq.	Down Freq.
RC1	145.96-146.90	28.36-29.40
RD2	145.91-145.95	29.41-29.45
RE3	145.96-146.00	29.46-29.50

No projected orbit parameters are known, nor is it possible to predict whether the satellite will be operable outside USSR.

Happy construction.

Trevor Stockill G4GPD.

THE UOSAT TECHNICAL HANDBOOK CONTINUES:

A UOSAT DATA DEMODULATOR

In almost any system designed to make use of the UOSAT data or camera transmissions some form of data demodulation is required. The circuit below is a first attempt at a suitable method of decoding the data for amateur use. It was produced within 24 hours of the data being available from UOS and as such it is not intended to be a "state of the art" design but rather a working circuit that will give food for thought and further development.

UOSAT DATA FORMAT

The 1200 baud high speed data transmissions from the telemetry, computer and video display experiments employ phase synchronous AFSK using 1200 Hz as a logic "0" and 2400; Hz as a logic "1". Data transitions always occur at the zero crossing point of the tone waveform, hence a logical "0" is always 1 complete cycle of 1200 Hz and logic "1" always 2 complete cycles of 2400 Hz. At data speeds other than 1200 bauds the tones no longer synchronous and the logic sense is reversed, i.e. 1200 Hz represents a logic "1" and 2400 Hz a logic "0".

The ASCII telemetry format is 1 start bit, 7 data bits, even parity, 3 stop bits.

THE CIRCUIT

Audio output from the receiver is applied to the IC1 (4011) where they are amplified and clipped to make them suitable for digital processing in the following circuits. The DC bias to the first stage is adjustable in order to cope with various levels of input voltage. IC2 is a re-triggerable 1 shot mono-stable with a period just greater than that of the 2400 Hz tone (416 US), thus during reception of a 2400 Hz signal it never times out, resulting in the output of the clocked data latch IC3a being at a constant logic 1. When, however, the input changes to 1200 Hz (833 US) IC2 will time out with the result that IC3a is immediately reset to a logic 0 and will remain that way as long as the 1200 Hz tone is received.

The recovered data is therefore available in either polarity from the outputs of IC3a and may be further processed as the user desires.

IC3a and 4a condition the incoming tone signals by acting as a divide by 2 or 4, depending on the state of IC2, i.e. when 2400 Hz is being received, a division by 4 occurs and when 1200 Hz is present a division by 2. The resulting out is a 600 Hz pulse train at the output of IC4a. N.B.: This is always 600 Hz irrespective of the received baud rate. This output is applied to pin 14 of IC7, a phase locked loop running at 32 \times 600, i.e. 19,200 Hz. The output of the phase locked loop is then divided by 32 in IC4b-6b, the resulting 600 Hz then is phase compared with the original in IC7 and any errors compensated for.

The clock output as shown is for a data rate of 1200 bauds. Clocks outputs for other data rates are as follows -

- 600 bauds (9600 Hz) from IC4b - Q
- 300 bauds (4800 Hz) from IC5a - Q
- 75 bauds (1200 Hz) from IC6a - Q

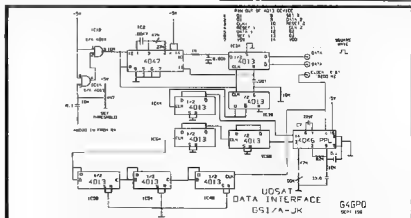
For use with the imaging camera data a 1200 baud \times 1 clock (1200 Hz) is available from NC6a - Q.

Note: The clock recovery circuit shown is not easily adaptable for 110 bauds.

We are at the moment preparing some UOSAT simulated data tapes for both the camera and data transmissions. These will be available from AMSAT-UK in the near future. For further details see Oscar News" or listen to the 80 metre "AMSAT-NET" on 3.780 MHz every Sunday morning at 10.15 a.m. local time.

Printed circuit boards for this and other AMSAT-UK projects will be available from the office of the Hon. Sec. as soon as possible. It is our intention in the next few weeks to finalise designs for the camera decoder and display modules, and hopefully these will appear in the autumn edition of "Oscar News". It is expected that the total cost of all the modules required to produce UOSAT pictures on a domestic TV receiver will be in the region of £50-75, depending on the contents of your "junk" box.

Next month we will publish a table of sensor allocations and status points.



HOW'S DX



Ken J. McLachlan VK3AH
PO Box 39, Macaroolbank 3138

Christmas spirit and all the parties to celebrate the new year over, resolutions made to be broken and the year ahead with horizons to explore, such as monitoring the new band segments, promised DXpeditions to exotic and far away places to work, coupled unfortunately with the forecast of poorer propagation due to the wane of solar activity, should provide interest to all enthusiasts in one way or another.

Activity has been at an all time high on all bands over the last few years, and QSL Managers for many of the rarer stations have been stretched to the limits of their capacity.

Though there are a few "professionals" who do nothing else but QSLing, the majority are unpaid benefactors to the amateur fraternity, who get little if any thanks for their onerous task which most amateurs take for granted, and think it is their God given right to receive a card back by return mail.

The majority of amateurs who work only a few stations per year think that looking after the log is a menial chore and anyone could do it, however in some cases and particularly on a DXpedition this runs into thousands per week and can you imagine the mail box.

It is a time consuming and sometimes frustrating experience though, and with everything it has its lighter moments and you become acquainted with some very nice people who are appreciative of the effort.

Before pronouncing judgement think for a while what this person has to do. Firstly check against the log of the required station (some managers don't have the log or a copy and merri y write on), sometimes having to convert "Central American" time back to UTC, then to identify it with the contact. This can be anywhere, even on the incorrect day, plus checking reports, band and mode. Maybe addressing an envelope if supplied, placing all cards for different times, bands and modes together, invariably placing their QTH on the back of the envelope, purchasing and affixing stamps and finally posting to their destination, so you can see that the time to make one DXer happy really gets away from you.

Many VKs are complaining bitterly, and rightly so, about receiving worthless cards, because of errors or omissions which render the card useless for the purpose for which it was intended, also causing the recipient to incur further expense to receive a valid confirmation.

In my opinion this should not happen, but it is a human error which has to be tolerated. The policy of some stations not to reply at all to a card which cannot be matched to the log cannot be condoned.

Return postage has been paid and it is common courtesy, and a number of prominent managers and DXers return the card noted such as "Not in log", "Doesn't work C in", etc.

With this explanation you know that you have worked a "Pirate", but you at least can start looking for that particular country again. The policy at this QTH is to keep looking until the paper work is returned all OK.

So when that card doesn't turn up by return mail, give the manager a little latitude and the benefit of the doubt, remembering he or she too has personal and business commitments and likes to enjoy amateur radio when time permits.

My observations on the problems of a QSL Manager are based on the fact that my XYL Bett did this task a number of years ago for a then rare country where the logs were copied via weekly scheds on SSB, and there was not one complaint.

Whilst on cards it should be pointed out that some cards never reach the intended station from bureaux because of the similarity of some letters of the alphabet. Correct forming of the letters of the call sign in reasonably sized print at the top right-hand corner on the reverse side of the card, paying particular attention to "zero", "one", "C", "G", "O", "Q", "U" and "V" will facilitate quicker sorting via the bureau and no misunderstandings.

CROZET FB8WG

George FB8WG has been very active at the only time that he has available, which is between 16.00 and 18.00 UTC. George has been worked in VK on 15, 20 and 40m, much to the joy of all the night owls.

It is hoped that an external VFO is amongst goods in transit to Crozet which have been held up at Corsica for some reason.

PITCAIRN VK6

Tom VK6TC is to have company this year by a relative — ZL1ADO. Evidently by reports he will be on the island for most of this year and taking the pressure off Tom.

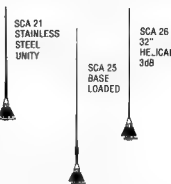
The call sign will be VK6KG QSL information not available as yet.

ANTIGUA AND BARBUDA

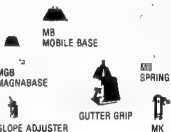
VP2A disappeared from the bands on November 1st, 1981, and was replaced by V2.

This was due to Antigua's independence after 349 years of colonial rule, and they will become the 46th member of the Commonwealth.

2 METRE ANTENNAS

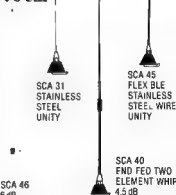


ACCESSORIES



Communicate with SCALAR

70 cm



SCA 46
6dB
COLINEAR

SCA 40
END FED TWO
ELEMENT WHIP
4.5dB

PROFESSIONAL
ANTENNAS FOR THE
DISCERNING AMATEUR



SCALAR SYSTEMS

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VIC 725 9677
N S W 502 2888
QLD 44 8024
WA 446 9177

Celebrations were the order of the day and, apart from dancing in the streets, the amateurs got together and made an on-sight on all bands, included were a couple of YL operators who were very much in demand.

SAN FELIX REVISITED???

Bob Read SV0BV hoped to revisit San Felix before permission expired last year for amateur activity.

Bob was due to finish work there which he commenced on his last visit for his American employer, but with no Chileans and particularly amateurs welcome because of political pressures and Amnesty International's knowledge of the area indicates that the island accommodates a few refugees from Chile's upsets in the last decade.

If you did work Bob as KF10/CEO0 San Felix, QSL to him direct only via Bob Read SV0BV, C/- QSL Bureau, Box 564, Athens Greece, Europe.

CQ BOUVET 3Y0

Every reader must want this rare country and an expedition is planned this month. Licences and all landing permission documents are in hand and if overdrifts can be arranged with some co-operation from the DX foundations the trip will be on.

The organiser and 'Brains Trust' behind this effort is Dieter Hoffer DK9KD, who is a well known DXer and excellent QSL Manager.

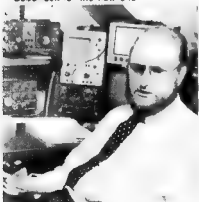
Dieter will also be remembered for his efforts with the Reunion Island and Juan de Nova jaunt in September 1980, and his diplomacy and connections which enabled the expedition to continue as planned.

Dieter asks that QSL cards be direct with covering postage and donations would be gratefully received to help defray expenses.

QSLs: 3Y0A to DK9KD (SSB), 3Y0B to DJ3NG (CW).

The group will operate all bands, both CW and Phone and the expected period will be mid-January onwards. To check on further details it would be advisable to monitor the ANZA net, 21.204 MHz, daily, at 0500 UTC.

Good luck for the new one



Dieter DK9FD.

KNIGHTS OF MALTA TARDIM

As this is a new country and the demand will be high, the operators have decided to activate the station this month for the deservng DXers.

QSLs preferably direct to Mario 10MGM, who was the "Legal Eagle" that did all the hard work to convince Newington that in fact it was a separate identity.

ANTENNA WORRIES

Worried about keeping that beam in the air when the wind blows? Everybody does and particularly the XYL, but spare a thought for an amateur from a South American country where there has been lots of trouble lately.

As well as the coils being excellent practice for the enthusiast with a rifle, the balun is the ultimate "Bull's Eye" and that's what happened.

DXING FROM 8Q7

The Maldives, a tropical paradise in the Indian Ocean and an ideal location for those planning a "hamming" holiday, is home to two amateurs, father and son, Noel and Romesh Lokuge, 8Q7AV and 8Q7AZ.

Noel, employed as Chief Pilot for the Government's airline for the last five years, was introduced to amateur radio by No 1 son, Romesh, who was a keen SWLer — but enjoyed listening to his father on the aircraft frequencies, taping them and re-playing them to him on his return home. Noel, a pilot all his life, spent a quarter of a century with the Sri Lanka Air Force, retiring as Chief Instructor prior to moving to Male.

It was Romesh's idea that they both study and obtain an amateur licence. This they did successfully and hit the airways using a 520X coupled to a dipole; progressively the equipment is growing as in all "shacks", and the happy twosome now sport a 1012D FL2100B linear, TA33JR beam, an inverted vee for 40m, plus a vertical for all band general listening.



8Q7AV — 8Q7AZ

Romesh is exceedingly keen on electronics and wishes to pursue it professionally when he completes tertiary orientation year next June.

This will mean that he has to leave the Republic as there are no tertiary institutions for further study and he is looking at scholarships in VK, the States or the UK.

Noel and his XYL Shiranee, No 2 son Ishantha, daughters Kshama (pronounced Shama, the "K" being silent) and Indu, enjoy the friendship they have made with other amateurs world-wide and hope to provide 8Q7 for quite a few in the years to come.

Good DXing from 8Q7 Noel and Romesh and the VK gang will always be pleased to have a rag-chew either from the home QTH or whilst Noel is "Island hopping" amongst the atolls using his QRP rig, aeronautical mobile.

Thanks to all for their contributions this month, especially VKs, 20XH, 3PA, BMA, DFD, 4DK, 6IH, NE, 8NE and Eric L30042, who have made this column possible.

A happy new year to you and your families, also lots of DX.

73, Ken VK3AH.

QSL ROUTES

Call	Manager
A6XJC	PE0MGM
A9XDD	K7DVK
A9XDO	KA4S
AP2ZR	JA6DGG
C2INI	OE2DYL
C3ILX	EA3VM
C8IST	DL1MH
CSACF	K4YT
CSADS	DL1LD
CSAEJ	K4YT
CN8ED	N98SD*
CT1BCM	OH2BH
DL1BA/3A	DJ5PX
EP2TY	JR3WRG
F0ANY/FC	DL4FF
FP0GAP	W8NR
G3GJQ/CN6	RSGB
HC8GI	W3HNK
HH2VP	N4XR
HS1AMS	K17PHO
J3AH	W2GHK
J5HTL	SM3CX5
J88AG	N0AFW
JY5ZH	DJ9ZB
JY9RV	K3NRVG
K8MFO/GCA	W8TRS
KP4KK/DU2	WA3HUP
N4FKZ/HR5	WA4RZL
OE2VEL/KHB	OE2DYL
OE5JTL/YK	OE5UYL
R1AR0	UK1CAA
SV1AU	W3FYT
TE1C	T12CF
TJ1GH	DL1H
TL8RC	F8EZV
TR8BJ	DJ5DA
TYAII	ON5NT
VE3NFR/4U	VE31DW
VP2KAA	N4PN
VR2KAE	N4PN
VQ8AB	K0AB
VS6GC	OE1HGC
VS6GZ	OE1HGC
W8NDM	W8TFS
3D2SM	VK3VNI
3XIZ	W4FRU
4KIB	VA3XBP
4N2DX	TU2DX
5N0KUY	J11M
5N2ALE	9M3BI
6Y5MJ	K8ZBY
7X4AW	DJ2BW
9Q5FL	K4AEB
9Y4FU	W3EVE

LOW BANDS SW DX WITH VQ6MD

1.8 MHz:
K1s and G

3.6 MHz:
DL, F, G, I, LA, OH, OK, OZ.

4, 5, 7m and Others:

The CQ Phone test brought about some nice ones on 80 SSB, such as GD5DLW, HZ1AB, KX6ZY, P28PS and P41C.

40m (SSB)

A little activity such as CT3CE, FR0FLO, HZ1AB, KG6RE, P41C, UM8MAA, UM8MWW, VP2KAE, ZK2ZZ, 4A2K, 4Z4DX.

LISTENING ON THE CW BANDS WITH ERIC L30042

1.8 MHz:

3D2NB/MM

7 MHz:

CT1BCM, DL1TL, FK8KAA, VK9NL, YV1AD, 8P6QL

14 MHz:

E14EN, FC8ETR, FK8KAA, FM7WU, FP0GAP, GJ5BLJ, WD9IHD/KH4, HH2VP, OA6BQ, PJ7VL, SV1GR, G3AAE/VP9, VS6DF, ZS6BIM, 8P6QL, 9U5WR

21 MHz:

EA6BD, FK0AF, HH2CL, HK1QQ, HK0BKK, HC1CTJ, HL0W, PY2PGS, SV1JG, TF3YH, XE1MB, YV5GRV, ZS1HE, 9H3BI

28 MHz:

VS6HK (beacon)

GOOD QSLERS FROM A SWL

A4XIZ, CR9UT, DJ7UX/EA6, KP4KK/DU2*, F79WARC, GU5DQT, H18OMB, H44MM, K6XT/NH9, VP2KAA, VQ8QA, ZE2ADI, ZE2KV, ZM7JS.

* Denotes 1.8 MHz.

FROM THE LOG OF VK6IH SSB

10m:

C6ADV, CT3AB(YL), EP2TY, HR1OL, J3AH, JX7FD, OY6NS, TG9EW, VK23W(YL), VP2M, 5M3PA.

16m:

D4CBC, HH2W, EL2AV, K6HNZ/CT3, T5TP, VP2KAC, 5Z4CM(YL), 6P2EC.

20m:

CR9D, JX7FD, KL7U, OX3ZM, PJ7ARI, V2AU, VK0AN, VP2EC, VP2MBA, ZK1BM, ZL4PO/C.

40m:

ZK2WW.

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Egil OZ480



Father Moran 9N1MM



Hugh VK6FS

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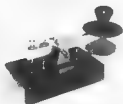
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EDUCATION NOTES

Brenda Edmonds VK3KT

Best wishes to all those sitting for the February exam. I hope those of you who used the trial exam found it helpful. I would be interested to hear any comments.

Herewith a few recent suggestions I have received about exams and licensing for your consideration —

- 1 There should be made available a list of 100 or 150 Regulations questions, from which the 30 for the exam will be selected (Similar to the Learners' Permit booklet for a Victorian driving licence.) This list should be changed only when changes to the Regulations occurs. The reasoning here is that there is a limit to the number of Regulations questions that can be written. Most people have already seen most of them by the time they sit the exam as it is.
- 2 There is no need for an examination in Morse sending as anyone who passes the receiving usually passes the sending.
- 3 Sections passed should be able to be held for two years instead of the present one year thus reducing the need for re-examination to some extent.
- 4 Procedures should be established to allow CW exams at higher speeds for reciprocal licensing purposes. These could be either fixed date or by arrangement with DQC. How many people make use of this facility? How much would they be prepared to pay for an 'endorsed' licence?
- 5 Examinations should be taken out of the hands of DQC and given to an institution such as University or CAE.
- 6 There should be an 'advancement' exam to allow the issue of a higher grade of licence with associated privileges of power, band space and mode.
- 7 There should be a standardized course for NAACP and AACP theory syllabuses for class instructors. This should give details of order, content, experimental work resource material and references for each section.
- 8 Exams should include 10 minutes reading time as well as the hour or 1½ hours for the exam.
- 9 Provision should be made for evening or Saturday afternoon exams, and for exams at a range of centres in country and metropolitan areas.

I would welcome ideas and opinions on these topics or any other aspects of education nearly all of the suggestions are present Institute policy. You can contact me QTHR and Melbourne phone book, or on about 3685 kHz about 2200h Melbourne time most Wednesdays.

73 Brenda VK3KT

CLOSE-UP



"Monty" Neil VK2JQ being presented with the Citizen of the Year award at Goulburn Lilac Time Festival.

Monty, a retired Minister of Religion, is still a very familiar figure in Goulburn as a social worker and hospital visitor. He is

patron of the Goulburn Amateur Radio Society and operates his FT101 on HF as well as being on 2 metres. Last year he celebrated his 80th birthday, and has had his licence since the 1920s.

Photo: Goulburn Evening Post

AROUND THE TRADE

VICOM OFFERS NEW SPEEDY PHONE SERVICE

Vicom has recently installed one of the first systems in Australia of the new Ericsson ASB30 computer controlled PABX telephone system.

Vicom believes that this will considerably enhance the company's reputation for prompt handling and processing of inward telephone calls, including product enquiries and customer service enquiries.

In addition a number of additional incoming lines have been added to the system to handle calls in peak times. Vicom has noticed a strong trend in recent times towards customers ringing for advice and assistance on ways of improving the amateur equipment and station practice.

To speed up telephone enquiry processing Vicom has asked that technical enquiries and assistance be directed to the Customer Service Manager, Mr. Duncan Baxter VK3LZ.

PHOTOGRAPHS FOR AR

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If you cease being a student or are not a student any longer, please pay the amount shown on the subs notice itself and discard the special student form. This assumes you have a VK call sign — if you have no call sign deduct the difference (if any) between the full and associate subscription rates.

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WHAT PRICE THE DXCC?

I have always followed a policy when writing this column not to use it as a forum for my personal views or anybody else's views. This is best done by a "Letter to the Editor" and it is up to him to decide whether to publish it in AR. On this occasion I will depart from this policy if only to draw attention to a situation which in my view has got a little out of hand and to provide some comments which must be aired by somebody. The DXCC and its effect on amateur radio is the case in point.

When I received my AOCIP and operator's licence over 20 years ago, I quickly learnt that one facet of amateur radio that interested me in particular was the collecting of awards, popularly known as "wallpaper". If you mention awards to almost any amateur in VK or overseas you will quickly learn that most know about or have heard of the DXCC and the requirement that you must obtain 100 QSL cards from 100 different countries to qualify. From comments I have received from many individuals and sources whilst I have been doing this job, and my own "on air" experiences over the past two to three years, I am about the time we critically examined the DXCC, what it means and perhaps explore the possibility of alternatives.

How many DX operators would agree that the chasing of that elusive new country to add to your DXCC score has led to some undesirable and ungentlemanly practices on the air? Having worked the country, what about the hassle and expense the operator is involved in to obtain that important QSL card?

I am now wondering where it will all end and, having obtained those elusive 300 plus QSL cards, what it all really means anyway? Let me list some of these alleged undesirable practices that have emerged on our DX bands over the past few years:—

1. The DX net frequency. Bad luck to anybody who is legitimately occupying the frequency when DX net time comes around.

2. The professional QRMers. Some of them have now become quite expert. The so-called "carrier droppers" are old hat. We now have RTTY, variable speed and reverse voice recording, burpers, recordings of jammers and computer-generated noises to contend with.

3. The illegal high power experts. Some of them are head and shoulders above the opposition. I know what power I use and have a good idea after 10 years on the DX bands what signal reports I give and expect to receive. I have come across some glaring examples of excessive power over the past couple of years but I must say that I have never heard a signal from within VK which is suspect.

4. The split frequency operation. No doubt this is now even more necessary because of the enormous increase in numbers

of operators. Some of the comments I have heard on DXpedition transmitting frequencies are downright rude! More commonly used expressions are "turkey", "nitwit", "idiot", to name a few — and yet we have others who regard themselves as self-appointed professional policemen who keep talking whilst others are trying to hear the DX station or give advice about how to work the station. The amateur who is enjoying his pleasant QSO with an overseas friend is not impressed when he is wiped off the band by a dogpile calling a DX station when a frequency split is in use.

5. The blatant soliciting over the amateur bands for funds to finance a DXpedition, a practice which is entirely contrary to the spirit of the regulations under which we are permitted to operate.

6. The "over-the-air" statements from some DXpeditioners that unless my QSL is accompanied by the required SAE, 3 IRCs or "green stamp", a QSL confirmation of the QSO will not be forwarded — and an even worse statement from one DXpeditioner that QSL cards via the Bureau will not be answered. We all know it but they don't have to say it!

7. The DXCC criteria which allows pieces of uninhabitable rock, reefs that are covered by water at high tide, etc., to be counted as DXCC "countries". Furthermore, it is often necessary to risk personal life and limb to set up and operate an amateur station at some of these locations. I suggest that the criteria is arbitrary, designed by a group of well meaning amateurs, but occasionally stretched to keep the DXCC going, e.g. why can't we change the criteria to allow VK7 or Kangaroo Island to be counted as separate countries? Conversely, why can't we combine G, GW and GM into one DXCC country?

8. The bootleg QSL card printing operation. On which was uncovered by the ARRL a few months ago it is incredible to me that some individuals will go to such lengths to get themselves in the so-called DXCC "Roll of Honour". I wonder how many similar printing operations have gone unnoticed and, as a consequence, how much in monetary terms is a legitimate QSL card worth? Whoever organises the next DXpedition to say any of the five most wanted countries could charge \$10 or even \$20 per QSL card and get away with it!

9. The signal report. Everybody is now 5/9, even if you can't hear them. I have actually worked and received a QSL from a station that I could not hear, having been helped along by others. The actual QSO is not so important. However you must get hold of that QSL card to show to your DXCC awards manager!

10. QSL cards with religious and/or political messages thereon. Those of you who have received any of these would know what I mean and individual opinions would vary according to your own philosophy. These go straight into the WPB at my QTH. The practice of commercial advertising on QSL cards appears to be on the increase but I personally have not objected. However I can easily understand the objections of other recipients of such cards.

11. The DX fury monger. He is the fellow who deliberately starts rumours on the DX bands about forthcoming DXpeditions, etc., which cannot possibly be true. Some of these rumours travel like wildfire and end up in one or more of the DX news sheets. It is only through experience, commonsense and a network of spies can a keen DXer sort out the grain from the chaff. Recent examples are the proposed DXpeditions to 3Y and Heard Island in the middle of the southern hemisphere winter (7) and the continent of Antarctica being split up into separate "countries" for DXCC purposes.

The QSL is now a major cost to some of our DX operators, and for what purpose? I suggest that you only need it to show to your DXCC awards manager, then you may as well throw it away because it is of no further use.

Others may say that you need QSL cards to qualify for other pieces of wallpaper but this situation is rapidly changing. Over the past couple of years I have noticed a rapid acceptance of the GCR system of log entries by awards managers who no longer require QSL cards. In my case, I now follow a practice of deleting all awards which require QSL cards from my own awards programme and concentrate only on those awards where a certified log extract is acceptable. If we all did this, awards managers would quickly get the message and the QSL cards would eventually become obsolete. On the other hand, some of us have not forgotten the old, long standing tradition and courtesy of exchanging QSL cards following a pleasant QSO. I have four shoe boxes full of QSL cards, which is not a great number for 20 years of operating. This is due to a deliberate decision I made when I first obtained my operator's licence to QSL certain countries 100 per cent via the Bureau on receipt only and I am adding further countries to this list progressively. Perhaps I do not require any more QSL cards? However, I like to seek out a QSO with and QSL from the odd special event station or special call sign or a card which contains some illustration or information that interests me, e.g. a card worth having is W6RO from the RMS "Queen Mary". Some new stations have in recent years organised special event amateur stations to coincide with Independence celebrations, etc. I worked H44SI in July 1976 and was promised a special QSL card if I sent along my card with SAE and green stamp or IRCs. In spite of my past experiences in similar circumstances, I sent along my IRCs but, as you guessed, no QSL has been forthcoming. I often wonder what happens to all the IRCs and green stamps, the postal system cannot be that unreliable! Fortunately I can report that I was not caught again with the more recent operation from Y8IND. My card has gone via the Bureau and it will be interesting to see what happens.

Another practice which is rather disturbing is that some rare DX stations save all the IRCs and green stamps received direct and send all the cards in bulk via the

Bureau. This is not exactly cricket and my attitude now is that my QSLs will go via the Bureau and hang the expense. Needless to say, there are some that I have never received and probably never will! However, I did receive via the Bureau my first 9 x 5 QSL for confirmation of a new country after a seven year wait!

I have also heard complaints from the new crop of DXers that they will never be able to knock off those at the top of the DXCC ladder because some countries that were active 10 or 15 years ago are no longer available. Does this matter anyway? It is true that many "countries" have been "deleted" or are QRT mainly for political reasons and may not be available to amateur operators for years to come. It is true that I worked and have confirmed some countries back in the early 70s that are not now available to current DXers. On the other hand, there are some DXers who were active 10 years earlier than I who have BV, ZA, 70, etc., confirmed. Some claim that those who, having been DXing longer have an unfair advantage and this is certainly true under our existing DXCC rules i.e. you can get on top of the ladder, go QRT and remain there until you become a silent key!

Of course, we could always amend our DXCC rules so that claimed QSOs are deleted say after 10 years so you would have to remain active to maintain your position on the ladder. This sounds fine until you consider the incredible amount of record keeping required of the DXCC awards manager. I suggest that it would be impossible to manually operate such a system but if we had each DXCC record on disc storage, programmed to progressively delete 10 year old QSOs each month and a trained ADP staff to input the information regularly and accurately, we could sustain such a system. I would like to get my hands on the Wang System 5 W/P at work as a start but my employer is not interested!

So where do we go from here? One idea is to delete the QSL card requirement from the DXCC rules. Before you all cry sacrilege and deluge the editor with protests, just think of the advantages

- (i) There will be immediate and significant financial saving to all DX operators.
- (ii) The work for all our volunteer QSL managers and WIA QSL bureaux in each State will significantly decrease and ultimately disappear
- (iii) The pressure for band space on the DX portions of our amateur bands will be substantially reduced. Operators will tend to spread out over the full spectrum of each band and operate at a more leisurely and gentlemanly pace.
- (iv) There will be a substantial decrease in the need for DX nets and the length of time they operate
- (v) The incentive to organise expensive DXpeditions to the rare islands, reefs, etc., will collapse. This will release pressure on band space and could

eventually lead to a sensible rationalisation of the DXCC countries list to get rid of all the rubbish.

- (vi) As you will only need a log entry, we can all work ZA and BY within the first ten minutes of them appearing on the band. The dogpiles will be substantially reduced and eventually eliminated. Furthermore, you will only require 10 watts to work the world anyway
- (vii) All the professional QRMers and high power operators will disappear instantly; there will be no incentive for them to continue their activities.

Of course some of the above suggestions are extreme and riddled with danger because some so-called "amateurs" would not be averse to cheating with our log entries. Nevertheless, the proposition to eliminate the QSL card requirement from the DXCC rules has a lot of support amongst some operators.

However, if we maintain the status quo and leave the DXCC rules unchanged, it is necessary to look into the crystal ball to what might happen to our DX bands and the operators over the next 10 years or so. Some plausible predictions may be—

- (a) The continuance and increase in all the undesirable practices previously mentioned
- (b) The end of the pleasant ragchew type QSOs with overseas friends. Such operators will be accused of taking up valuable band space and will be w/ped out by the mad keen DXers.
- (c) Within 5 years QSL cards from some DXpeditions will cost \$5 each minimum and you must send direct, and the price will escalate at the rate of \$1 per annum.
- (d) Illegal linears will proliferate. I already have a design of a 5 kW auto-tune remote control linear on the drawing board but need to make some structural changes to the wooden rafters in the shack ceiling before installing it, complete with a refrigerant cooling system (to allow for future expansion) out of sight in the roof. Also I must be able to convince my local electricity supply company that I need a three-phase mains service in a strictly residential area. This appears to be the hardest hurdle to overcome.
- (e) USA amateurs will receive phone privileges for the 14100-14200 portion of the 20 metre band.
- (f) Future DX "big guns" will recruit private armies or security patrol personnel to keep neighbours, other amateurs and RIs away from their amateur radio estates.
- (g) Illegal amateur radio activities will cause undesirable diplomatic incidents. To date, illegal operations have only been a source of annoyance to most operators, but during 1979-80, pressure had to be applied through diplomatic channels to silence an amateur radio station in a Northern European country which was engaged

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Kilsyth 3137
VIC 325 9677
N.S.W. 502 2888
QLD 44 8024
W.A. 446 5177

in deliberate QRM tactics. Police with big shooters were involved in this incident!

- (h) A gradual down-grading of the status of amateur radio by governments, regulating bodies such as the ITU, and individuals as a result of some or all of the above listed activities.
- (i) The banning of amateur radio privileges by more countries as a result of the above listed activities — not to mention the ultimate economic damage which will result to the employees of firms in countries manufacturing and marketing amateur radio equipment.

Before you dismiss the above suggestions as the ravings of a rabid, just remember that when working with the aid of a crystal ball, some but not all predictions will come true. The worrying question is which prediction?

Apart from being the devil's advocate, where do I stand in this debate? I guess you will have to listen to the dogpile when ZA and BY come on and maybe my call sign could be present! I am sure our editor would welcome any comments but please don't send them to me as I may not have the time to read any letters. I am considering a proposition to take on some after hours employment to earn extra cash to pay for the IRCs, green stamps and bits and pieces for my new linear!

Therefore is there an alternative to the DXCC award? I think not, but there are some other awards which require almost the same constant effort to qualify. One such award is the UN-DU Award of the Philippines which will be described in a later issue. I have included the preamble accompanying the rules for this award which explains how the sponsor, The Philippine Amateur Radio Association, has attempted to correct the various deficiencies for which the DXCC is often criticized.

I have now received my UN-DU Award and this would be one of the very few in captivity within VK. In my opinion, there is a far more detailed and colourful document than my WIA and ARRL DXCC certificates but still will not displace my "Arabian Nights Award", which is the top certificate in this ham shack. I predict with confidence that there is no one within VK who could claim all possibilities for this award, e.g. I could not claim Bahrain because I have no A9 QSL cards, whereas I have four MP4B cards.

I do not have the official PARA list of UN members but I submitted my application on the UN list obtained from the United Nations Association office in Adelaide. Similar listings can be obtained from UN Association offices in each State. You may be loathe to apply for this award because you must send original QSL cards for scrutiny by PARA. As the mail system between VK and DU is somewhat unreliable, I suggest you contact me for details of an alternative but expensive method via an international courier service which should guarantee safe return of your QSLs if you are not prepared to risk the postal system.

(To be concluded in the next issue.—Ed.)

NATIONAL EMC ADVISORY SERVICE

Tony Tregale VK3QQ
Federal EMC Co-ordinator

PURPOSES

- (a) To educate amateurs and the public on RFI — its causes and cures.
- (b) To encourage the manufacturers of electronic industrial and consumer electronic equipment to accept responsibility for and take those steps necessary to reduce the susceptibility of their equipments to strong RF signals.
- (c) To encourage power generation and distribution authorities to accept responsibility for and take those steps necessary to reduce and eliminate the generation and radiation of radio frequency energy from such equipment or device which is not intentionally designed to generate or radiate radio frequency energy by emission or induction.
- (d) To encourage the manufacturers of amateur equipment to take those steps necessary to reduce the generation and radiation of spurious energy.
- (e) To provide amateurs and the public with information as to whom requests for assistance can be directed when electronic industrial and consumer equipment is affected by RFI.
- (f) To educate amateurs and the public as to their rights and obligations in matters pertaining to RFI.
- (g) To ensure that visibility is given to the RFI problem in the popular and technical literature and at technical forums attended by amateurs and manufacturers of amateur equipment and of electronic industrial and consumer equipment.
- (h) To provide support for appropriate legislation.
- (i) To monitor and respond to proposals to impose local ordinances concerning RFI and to assure that these are fair and reasonable.

ACTIVITIES

1. Give visibility to RFI in institute publications, including articles in AR.
2. Continually update the RFI Assistance List, and publish this list at least once a year.
3. Maintain a dialogue on RFI with manufacturers of electronic home entertainment equipment, with manufacturers of amateur equipment, and with the Department of Communications, as requested by the Federal Executive.
4. Make arrangements for the testing of amateur equipment for the generation and radiation of harmonic radiation as required.
5. Encourage and support appropriate legislation, and in particular assist the Federal Executive in relation to such matters.
6. Update and make available to all amateurs in Australia a packet of information on RFI.

7. Work for the publication in newspapers, news magazines, etc., of articles on RFI as necessary.
8. Present papers on RFI at WIA technical forums, and such meetings on electromagnetic compatibility.
9. Prepare material suitable for presentation at clubs, at meetings, on amateur radio news broadcasts, etc., on RFI.
10. Explore ways to educate electronics servicemen in the nature and correction of RFI and TVI.
11. Generally to advise the WIA, through its Executive, with a view to formulating inspired and effective policies by the WIA, in relation to RFI generally.

EMC advice is available to all Australian amateurs through the National EMC Advisory Service. The main aim of the service is to try and ensure that all Australian amateurs have access to the best national and international EMC advice and technical information.

Interference is rather like our home insurance — we don't think about it until we are in trouble. In order to try and ensure that data and advice is available when required the service has a team of technical advisors and a large amount of information on file. Our information files are being constantly updated. However due to the complexity of this very wide subject we must rely on the co-operation of all Australian amateurs for a large percentage of this information. If you have any information, ideas, suggestions, comments, etc., in connection with EMC, please don't sit on it — pass it along.

If you have an EMC problem, don't wait until it gets to major proportions — send the details along. Law suits and legal battles can be very expensive. One of the main aims of the service is to try and ensure that the problem does not get to law.

While on the subject of law, it is interesting to note that the DOC hopes that the Radio Communications Bill will be presented in Parliament during the current sessions and come into effect in the autumn session in 1982. After the Bill is introduced into the House of Representatives there will be further opportunity for comment before it passes into law. We must ensure that the section which covers EMC, susceptibility and immunity, are fair and reasonable towards amateur radio. This is the area where all amateurs can help by sending constructive comments and suggestions through the National EMC Advisory Service.

QSP

In the middle of the Pacific Ocean there's a line you can cross and lose a whole day. In the middle of the highway there's a line you can cross and do even better — "Lyrebird".

1981 Remembrance Day Contest Results

Winner - VK5/8 Division

Reg Dwyer VK1BR

COMMENTS BY FCM

Well here it is, the results at last, and some really excellent efforts were seen this year, even though the scoring was reduced to 1 and 2 points per contact.

The tone of the contest seemed a lot more relaxed and friendly with operators taking a little more time for the contact.

The quality of the submitted logs was generally quite good and a word of thanks to those of you who bothered to type or print your entry.

A special commendation for effort goes to the amateurs who assisted in delivering VK0HW's log via cassette, RTTY computer processor and Australia Post.

Many of you have commented on the rule changes and the lack of published formula. The formula to be used this year was to be received from VK6 and unfortunately had not arrived until after closure date for AR copy. When this formula was distributed to all Divisions for approval for use, the majority decision was to delay its introduction until a full appraisal of its unseen effects could be worked out. It was decided that the formula used in the 1980 contest would be used.

I have been receiving a steady stream of comments and information since the completion of the contest and the formula will be sorted out well before 1982 contest.

NOW FOR THE RESULTS

VK5/8 has won the contest again this year with consistent scoring and a good participation rate.

VK6 came a close second, whose effort was very good and scoring was well up.

VK7/0 was a close third, with a very good participation rate.

The total number of active logs received was 1005 with 170,677 points scored in total, at 1 and 2 points per QSO.

The scores, by Division, follow and the results speak for themselves.

RESULTS OF THE 1981 REMEMBRANCE DAY CONTEST

COLUMN DETAILS

- A - Total logs received
- B - Full call logs received
- C - Full call licences as at 1st April, 1981
- D - Total points scored
- E - Percentage participation
- F - Trophy score from formula
- G - Position

	A	B	C	D	E	F	G
VK1	62	34	176	10266	19.32	1984	5
VK2	139	112	2398	18910	4.67	883	7
VK3	116	91	1919	21886	4.74	1037	6
VK4	131	87	827	19054	11.73	224	4
VK5/8	285	203	840	48096	24.75	12157	1
VK6	170	131	558	33392	22.58	7865	2
VK7/0	110	69	222	18081	31.08	5620	3

VK1 CW	MM	22	UD	80	CC	374
	FT	26	"NDM	102		
	DA	55	DH	208		

VK1 PHONE	SG	12	"NOJ	131	FM	261
	"ZAT	17	RR	133	"ZOR	266
	SG	18	FT	124	"NEB	318
	DF	25	"ZIF	160	ZT	318
	"NDK	31	"ZSJ	150	CC	334
	DO	40	"MAN	162	MX	344
	DN	46	RK	168	"ZAR	345
	"NDY	50	MF	170	"NDA	368
	"HF	51	"KDL	191	"ZAH	385
	"BO	57	MM	201	"KAA	396
	UD	58	"KEN	207	DA	473
	AI	70	OK	210	"HCV	484
	DS	94	LF	226	JN	742
	KV	100	WI	240	GB	792
	"NEF	126	CAY	246	MH	70

TOTAL SCORE	10268
FULL CALL LOGS	82
Total Logs	34

VK2 CW/RTTY	BOS	18	"NAW	54	BRA	132
	DEW	20	VM	60	SU	180
	AJO	24	LF	70	DBF	213
	HQ	30	AJO	70	H	220
	IN	30	VI	78	DID	248
	RJ	32	AZR	84	BHO	247
	DOL	32	BQC	86	ZC	252
	JM	42	QL	100	EL	336
	BO	46	GT	108	AOF	378
	BLK	46	"VLF	124	DI	386

VK2 PHONE	GU	11	NV	55	"VOT	110
	YA	11	"KBN	58	LF	110
	CF	12	RJ	58	JT	116
	DLG	12	AQS	60	AMV	127
	ACF	13	ASC	60	DHU	127
	AJM	14	DBA	60	3PD/2	130
	OH	14	"KAW	61	AJO	130
	BAD	14	CM	62	"KAY	140
	BRC	15	MR	62	PH	145
	"KDX	17	WI	64	BID	147
	"ZBO	17	DHL	66	"HAW	156
	AJM	20	AJO	65	BDT	163
	AZS	21	"KDT	68	BOD	167
	DJD	21	"PPH	69	SU	198
	DK3	21	"VUT	73	DO	175
	PY	22	FJ	74	DOR	185
	XT	23	GBH	77	"KES	196
	DGL	24	"POO	77	DUG	217

	"NWG	26	"MKN	79	AGF	220
	AYF	27	"VVP	82	BOS	225
	RJ	27	DLE	84	ASY	244
	BHO	28	AJC	84	BON	284
	HZ	32	"VVP	86	BGF	287
	"KDH	33	APP	92	DVU	246
	"VYV	34	"PKJ	100	NW	368
	"VOE	34	DEW	100	DIX	405
	AJL	34	GS	101	"NAO	419
	"ZVN	38	"ZZX	101	Dm	455
	WT	38	"KSK	102	BFR	501
	"W	40	BAM	103	BAM	534
	IV	41	BUT	105	BO	541
	"NWE	44	DXG	105	RA	567
	QC	48	BCZ	106	DGX	589
	TK	55	UC	107	DNS	784
	AZR	55	ABC	108		

VK2 CLUBS	ABZ	26	ABZ	185	DCL	705
	WG	120	BH2	419		

VK2 LISTENERS					
L20475	1000	100	0	0	254
TOTAL SCORE					18910
Total Logs					139
Full Call Logs					112

VK3 CW/RTTY	ACA	20	BOH	202
	FA	20	RJ	222
	YV	22	AMD	236
	DLM	24	KS	236
	SM	26	BOD	310
	BYN	44	BLO	152
	SV	44	XB	186
	BNO	50	NK	200

VK3 PHONE	BKU	10	KS	82	AEO	176
	BOS	10	ARJ	83	"VW	185
	AKO	10	DVT	88	"ZNE	189
	"PSW	11	"NDT	88	BH	201
	SV	11	"ZFI	88	AKE	207
	ARA	12	OZ	81	BQU	217
	DLM	12	"VIR	82	SM	219
	BN	12	BW	82	AKF	222
	AWZ	13	DEB	82	AVV	233
	ABP	14	LJ	88	DAK	239
	"ZSO	16	NE	88	XP	248
	"VKU	17	XDK	91	BSR	250
	ASU	17	AMW	92	"ZWI	252
	DET	18	KS	98	"YUJ	252
	AMD	19	ZJ	100	"VMY	294
	"YCU	22	"YKX	100	WI	315
	XS	26	EF	100	JN	315
	ANP	30	DS	101	BRC	355
	800	31	"VUJ	102	ZI	371
	ABW	34	ABW	111	WL	428
	PA	34	GBB	112	QI	481
	PBA	42	OGV	118	"NLO	530
	BBM	42	BJM	119	BMV	559
	AWI	44	ODX	138	"ZXW	604
	"VAN	44	OAX	138	AYF	838
	BYA	45	"VMZ	141	ANM	849
	"WUJ	46	"YYP	146	BYN	781
	KT	48	ACR	146	ADW	763
	WY	60	XG	150	CGR	817
	BOH	50	CJB	153	WV	824
	BRL	87	"YRP	187	WP	1001
	"KAU	80	BKN	159		
	"ZNUJ	82	"VRU	181		

VK3 CLUB	BSH	744
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VK3 LISTENERS	
L31378	875
TOTAL SCORE	21885
Total Logs	119
Full Call Logs	91

VK4 CW/RTTY	AMH	10	ABM	52	HH	188
	DF	22	AIX	72	CJ	170
	ST	30	SV	74	FB	210
	QY	78	LV	428		
	XJ	34	DI	94	XA	552
	"VDG	50	"NRZ	120		
	NJ	50	JH	146		

VK4 PHONE	AOB	10	LN	20	"KWO	25
	GNI	10	ZH	20	"VOD	25
	"HZZ	11	UP	21	"XJX	26
	NS	12	AF	21	VZ	26
	RE	12	AAU	21	AJU	26
	PZ	13	"VEH	23	XZ	26
	XP	18	AMO	23	LE	26

UB	30	AAK	99	*NKK	162	*NPK	82	SE	157	APH	352	TU	15	LV	68	HU	248		
*NKJ	30	ASP	100	*MCE	162	*NGC	92	QO	158	ZK	353	*NMH	15	SH	69	YO	243		
ABM	32	RT	102	AMH	165	*NOC	92	ATM	161	APB	353	MO	15	XT	70	*ZHR	251		
LA	34	KT	*02	ARD	173	*NGA	94	AWM	163	ACE	356	*NAZ	16	*ZHU	71	*ZSE	261		
*ZRQ	34	*NLT	104	UJ	175	VD	96	RR	164	ANW	363	PS	17	*ZLO	71	AJW	278		
*VEL	35	*NVV	108	*ZCM	177	*NWW	97	AIM	166	*KDG	367	ZH	17	*NQU	72	RO	278		
VN	35	*NOX	110	KD	179	*NRA	99	KV	175	ATE	368	JY	17	ABM	73	IM	285		
*VHE	35	*NDG	110	FN	183	VE	ABY	*02C	176	*NCK	374	*ZDJ	18	YE	75	*NLZ	288		
GT	36	RF	110	ES	200	*NTU	100	*POZ	177	VW	381	EB	18	*NOK	78	*S	291		
BG	36	SV	111	AVK	200	*KOT	100	*NWS	181	AIJ	381	*NIM	18	EO	80	GW	293		
*KMD	43	CCU	112	*NUM	232	UI	102	*NLC	190	AMW	386	AV	18	*NPL	81	*NVL	298		
PU	50	ANZ	114	*VJK	254	BI	122	SS	190	MX	390	EJ	19	LP	84	ABR	299		
UGA	52	ARA	121	SBF	258	*AKW	163	ND	192	*KEG	395	*NPG	20	AN	87	ST	304		
EF	52	ATW	*12	ACM	258	*NPS	105	XW	200	D1	395	XW	20	EP	81	GL	307		
*NVW	53	PJ	122	*VCO	268	IT	105	XI	202	NJ	415	FX	20	*KSD	92	GL	308		
YG	55	*KNL	123	UX	275	TW	105	*KDB	294	ZZ	428	RO	20	RZ	100	BE	343		
*KAP	57	ZBV	128	LB	280	*KAA	106	*ZDJ	206	ACW	428	*ZOR	22	WZ	104	DY	348		
OY	60	FC	129	*VBD	303	APL	107	AST	212	*NRN	441	WK	23	CF	108	NK	357		
CZ	60	ABY	131	ZV	319	*PLW	109	ALJ	217	AAS	443	WV	23	UH	107	ML	358		
AIX	61	2RP/4	135	*NZW	321	LM	108	FY	218	*ZCF	444	UU	25	*KGE	110	UT	381		
AGW	61	DT	138	ACC	341	*NWT	112	*NMM	221	DJ	455	HO	26	PO	113	*ZLT	396		
AMG	62	*VDF	138	TE	348	YD	116	*ZHV	228	XZ	456	NIE	26	*NGX	117	QM	403		
*NUI	64	ASB	142	AGC	394	JK	118	*NHJ	239	AWK	461	DC	28	HO	119	AO	423		
AGU	66	PK	147	AEV	408	XY	120	AHK	241	*KRX	482	ADL	30	DV	120	FC	404		
EH	74	WT	160	OO	551	AO	120	LM	248	OU	493	UX	30	CK	120	VI	438		
*KBD	78	APG	171	AOP	645	ADY	130	AAJ	248	LJ	507	TP	31	XK	120	JN	439		
ZU	78	YK	153	AMB	660	ATB	131	ALW	250	ABC	512	ES	32	*KVK	121	AWI	438		
AXT	84	IZ	158	LT	790	FL	124	AVO	264	ZH	523	*ANC	33	SO	121	AD	454		
VK4 CLUBS						AMY	125	SU	280	ATW	527	RG	34	*NLE	126	*NLD	458		
*VCI	30	AOH	479	WIS	750	AVR	125	ST	282	TZ	529	OE	37	*KBZ	128	*ZCK	475		
*NCI	288	WIZ	633			AFY	127	ARZ	287	*AYD	537	*NPW	38	OR	148	WIA	482		
						GL	133	SP	280	JM	540	RW	40	WL	148	*ZMG	483		
						UU	134	EV	292	AGO	545	MF	41	*ZGK	148	AB	485		
						ZB	140	DK	254	AGW	545	DA	41	ZZ	148	WH	504		
						*NLC	140	*KJR	287	FK	585	*NPM	42	*NTZ	160	MS	516		
						LO	142	XC	301	ASA	648	*NBT	44	YS	151	FS	558		
						EA	143	RY	307	BW	688	ARL	45	TX	151	KY	601		
						OF	144	AGP	307	ATA	706	DM	48	WB	157	KQ	625		
						*NCH	150	ACY	328	FF	714	*KWB	47	WT	160	YF	651		
						AKS	150	UP	335	GR	763	AO	50	GO	162	PO	670		
						IF	163	AAC	339	NX	782	*NHG	62	SM	172	*P	678		
						OZ	154	*NOG	343	*ZRO	814	ZT	96	GR	175	RQ	709		
						FJ	158	BN	347	QX	1200	*NRU	95	*NEP	201	HA	1013		
						VJ	166	*KTY	361			RU	96	RF	202	YL	1407		
												CU	96	*ZFA	221				
												VI	98	*NWA	231				
												VK5 CLUBS							
												108							
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*NNV	203	FT	259	NXB	265
*ZLH	215	*ZGA	250	GE	410
*ZTA	218	*NPK	263	KZ	547
*KGG	219	*ZEN	265	*KXX	550
PV	231	JV	259	VH	594
WZ	231	WD	262	KC	607
LI	234	FL	302	UM	721
*NRD	237	*ZPK	300	PC	778
*NWR	240	RR	391		
*ZOT	245	*ZSC			

VK7 CLUB
NW 678

HW 394

VK7/0 LISTENERS
G Mutton 210
L70217 112

TOTAL SCORE 18081
Total Logs 110
Full Call Logs 89

P20 PHONE
CH 154

P20 CLUB
LS 1233

TOTAL SCORE 1387
Total Logs 2

ZL CW
190 414

3TX 11 1AGO 71 2GT 270
4LJ 27 1GG 240 1AFK 276

TOTAL SCORE 1309
Total Logs 8

VK7CL VK3LC ZL2BDC, VK2DMW/ZL2BUV, VK3CD, VK5IX

WIA SUBSCRIPTIONS 1982

If you joined this year and paid the full year subscription at that time, part will be a pro rata for this year and the remainder will be shown in the computer as a pro rata credit for 1982.

Your 1982 subscription will therefore be only the difference between the full twelve month rate for the year LESS the pro rata credit carried forward from 1981. This takes you through to 31st December, 1982, so that in subsequent years you will always be on a 1st January to 31st December basis like everyone else. Normally such a credit carried forward applies to new members.

If you have only a small amount to pay please pay it as early as you can in case something unusual occurs in the computer readout and an unofficial status after February suppresses your AR address label.

CONTESTS

Reg Dwyer VK1BR
PO Box 238, Jamison 2514

Well we are now into the new year and all the festivities are over for another year. Let's hope that this year is most enjoyable for all amateurs. Let me extend my best wishes to you all.

CONTEST CALENDAR

January

10 Ross Hull VHF Contest AR 10/81
9 73 40m Phone
16/17 73 160m Phone
23/24 White Rose SWL Contest
29/31 CQ WW 160m CW

February

6/7 John Moyle Field Day
6 and 24 hr. AR 12/81

13/14 Dutch PACC Contest
13/14 NZART National Field Day
26/28 CQ WW 160m Phone
27/28 French Phone
27/28 RSGB 7 MHz CW

13/14 OCWA Phone QSO Party
27/28 CQ WW WPX SSB
Exchanges and rules

THE 1982 FRENCH CONTEST

CW

January 30th, 0600 UTC to 31st, 1800 UTC.

PHONE

February 27th, 0800 UTC to 28th, 1800 UTC.

Classes:

Mono-operator or multi-operator. Mono-operators have only 26 hours to operate.

Valuable QSO:

Only with French-speaking countries stations, using following prefixes: C3, CN, D6, DA1/2, F, FC, FB8, FG, FH, FK, FM, FO, FP, FR, FW, FY, HB, HM, J2, LX, OD, ON, TJ, TL, TN, TR, TT, TU, TY, TZ, VE2, XT, YJ, 3A, 3B, 3V, 4U (ITU), 5R, 5T, 5U, 5V, 6W, 7X, 9O, 9U, 9X.

Reports:

RS/RST plus QSO serial number (starting at 001).

Points:

Each valuable QSO = one point

Multippliers:

According to the DUF and DNF awards countries list, one point for each of —

96 French departments, 29 French overseas departments or territories, 25 DUF other countries, 9 Belgian provinces and DA2/FBA, 14 DNF countries.

Final Scoring:

Sum of points for QSO, all bands, multiplied by total of 5 (multipliers points), all bands.

Contest Awards:

Certificates to highest scorer in each class, 'n' each country (minimum scoring: 100 QSO).

Logs:

With summary sheet, available at REF HQ against SAE + IRC. The summary sheet is used for multipliers details.

The REF traffic manager is Bernard

Francillon F6BDN (F8TM is now honorary director)

Mailing Address:

REF French Contest,
Square Trudeau 2 75009,
Paris, France.

Please Note:

The national QSL service is —
REF QSL Square Trudeau 2
75009, Paris, France.

WICEN

R. G. HENDERSON VK1RH,
Federal WICEN Co-ordinator

The Natural Disasters Organisation, responsible for co-ordination of Commonwealth support in natural disasters, has had a major change of staff this year. Several of the senior military appointments have changed, namely the replacement of Rear-Admiral Rothery Swan by Major-General Ken Latchford as Director-General. Several of the public service staff officers, including WICEN's two principal contacts, the executive officers training and communications, have left NDO.

As a consequence of these major changes the annual NDO exercise, when the National Emergency Operations Centre (NEOC) is involved in a command post exercise (CPX), took place totally in house this year. What actually happened was the 1980 exercise, which involved WA SES for simulated cyclone and earthquake input, was repeated in Canberra using the messages prepared and retained from 1980. Consequently there was no requirement for a WICEN network, the first time for several years.

No doubt NDO's in house experience has been regained and we can expect amateur radio involvement in next year's exercise.

For those interested in civil defence have you read the September 1981 issue of Pacific Defence Reporter? Deputy Federal Co-ordinator Ray Roche VK1ZJR/4 reports that their analysis makes several references to effective communications and highlights deficiencies in the present system.

Finally, an early warning, by the time you read this the WIA Federal Convention will only be a few months away. Are there any WICEN matters you wish to raise, either via me as Federal Co-ordinator or through your State WICEN Committee and Divisional Federal Councillor?

15,000 licensed amateurs in a population of 15,000,000 is a tiny percentage. One strong voice, the Wireless Institute of Australia, carries weight — much more weight if all amateurs join as members.



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- Broadcasts — 3570 kHz and 2m Ch 6 (or 7) 10 00Z

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- Broadcasts — 1180 and 1930 local time Frequencies bracketed at 1300 only
18125 Nole relay 1825 — Sydney relay, 3.595 (7.146), 28.32, 52.12, 82.525, 144.12 MHz Repeater Ch 6650 Oberon (6700 Orange), 6750 Gosford (6800 Lismore), 8450 Wollongong, 7000 Sydney 8525 Sydney

VIC.:

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- Gen Mtg — 2nd Wed, 22 00

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- Secretary — Mr F J Saunders VK4AFJ
- Broadcasts — 1825, 3.580, 7.180, 14.342, 21 175, 28.400 Rpt. Ch 6700 and 7000 Sundays from 0900Z (Sat 2300 UTC)
- Re-broadcasts — Mondays 3.605 from 1900Z, Mondays 80 or 20m RTTY segment from 1100Z

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- President — Mr J B Mitchell VK5JM
- Secretary — Mr W M Wardrop VK5AWM
- Broadcasts — 1820, 3550, 7095, 14175 kHz, 21 195, 28.470 and 53.1 MHz 2m (Ch. 6) 09 00 S A T
- Gen Mtg — 4th Tuesday 19 30

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- President — Mr B. Hedford Thomas VK6OO
- Secretary — Mr F Parsonage VK6PF
- Broadcasts — 3560, 7075, 14100, 14175 kHz 28 47, 53.1 MHz 2 metres Ch 2 Perth Ch 6 Wagla Time 0130Z
- Gen Mtg — 3rd Tuesday

TAS:

- President — Mr I F Ling VK7XL
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- President — Mr T A. Hlop VK6NTA
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- Secretary — Robert Milliken VK6NRM
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Postal Information:

- VK1 — P O Box 48, Canberra, 2600
- VK2 — 14 Aldison St, Crown West 2085 (Ph (02) 43 5795 Mon, Tues & Thurs 9.45-13.45H)
- VK3 — P O Box 123, St Leonards, NSW 2085
- VK4 — 412 Brunswick St, Fitzroy, 3085 (Ph. (03) 417 3535 Weekdays 10.00-15.00H)
- VK5 — G P O Box 1234 Adelaide, 5001 — HQ at West Thebarton Rd Thebarton
- VK6 — G P O Box 10, W Perth, 6005
- VK7 — P O Box 1010, Leamceston, 7250
- VK8 — (Incl with VK5), Darwin Air Club, P O. Box 3737, Winnellie, N T, 5788

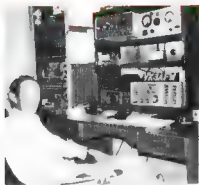
Slow Morse transmissions — most week-day evenings about 09 30Z onwards around 3550 kHz

VK QSL BUREAU

The following is the official list of VK QSL Bureaus, all are awards and outwards unless otherwise stated

- VK1 QSL Office, G P O Box 48, Canberra, ACT 2600
- VK2 QSL Bureau, P O Box 73 Teralba, 2294
- VK3 (Inwards) QSL Bureau, Mrs B Gray VK3BYK 1 Amery Street, Ashburton, V.c. 3147
- VK3 Outwards QSL Bureau, C/o 412 Brunswick Street, Fitzroy 3055
- VK4 — QSL Office, G P O Box 638, Brisbane, Qld., 4001
- VK5 — QSL Bureau, Mr Ray Dobson VK5DI, 18 Howden Road, Fulham, SA 5024
- VK6 QSL Bureau Mr J Rumble VK6RU, G P O Box F319, Perth, W.A. 6001
- VK7 QSL Bureau, G P O Box 3710, Hobart, Tas 7001
- VK8 QSL Bureau C/- VK6HA, P O Box 1418, Darwin, N.T. 5794
- VK9, 8 Federal QSL Bureau, Mr N R Penfold VK3NE 386 Hunters Rd, Woodlands, W.A. 6018

NOVICE NOTES



Edited by Ron Cook VK3APW

Welcome to Novice Notes for 1982; may this year bring you many enjoyable hours with amateur radio activities.

In these days of 12V equipment some of us may be developing an unhealthy contempt for our power supply wiring. Neglecting motor vehicles and the like, death by electrocution is perhaps the most frequent form of all non-natural deaths. Certainly such deaths outnumber those by drowning or skirmishes with wild beasts, sharks and snakes. Yet if we knew that a large tiger snake dwelt in the transceiver power supply wouldn't we be very, very much more careful when changing a fuse, etc.?

Yes this month I am going to talk about the 50 Hz 240V AC mains supply and the main switch.

The usual supply consists of three wires. There is the active wire or conductor and the neutral conductor. These two wires come to our shack from a step-down transformer located on a pole in the street (in most cases). Two wires are of course necessary to allow normal current flow. The first stop for these wires is the householder's switchboard. On this are mounted a main off/on switch and fuses as well as a watt-hour meter. There may be a time-switch and watt-hour meter for the off-peak hot water service as well.

The location of the main switch should be known by all members of your family so that in an emergency it can be used to isolate the household wiring. See Fig 1.

On the switchboard there is also a brass bar, known as the neutral bar. The neutral conductors and a main earth connection are bonded together by this bar. Other neutral and earth wires are also connected here.

As a means of protecting each circuit from a continuous overload a fuse is placed in each active lead. The size of the fuse is determined by the type of circuit it is protecting. The Australian Standard for

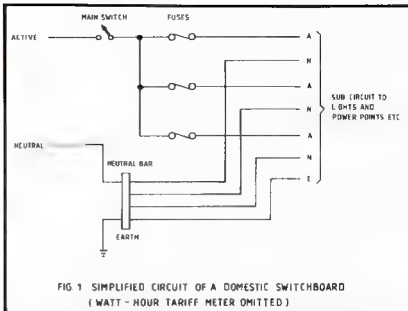


FIG 1 SIMPLIFIED CIRCUIT OF A DOMESTIC SWITCHBOARD
(WATT - HOUR TARIFF METER OMITTED)

electrical wiring AS 3000 prescribes the size fuse to be used under different conditions. Never replace a fuse or fuse wire with anything other than the rated type. For recent wiring Table 1 shows some typical ratings. In 1960 5A fuses were used for lighting circuits and 10A for power circuits. This changed to 8a or 10A and 15A respectively in 1961.

A fuse consists of an insulated holder and a short length of wire which melts when excess current flows through it. A fuse will carry its rated current indefinitely but will melt or "blow" if this is exceeded. The greater the overload the quicker the fuse melts. Thus the active and neutral conductors do not get excessively hot and cause a fire or other undesirable situations if for some reason an overload occurs.

The fuse in our transceiver is to prevent massive damage if a minor fault causes excessive current to be drawn. The fuse in the switchboard protects the house wiring (and the house). Under no circumstances use anything other than the correct rated fuses for replacement purposes. All house wiring must be done by a licensed electrician.

The active wire, which is fused, is at

240V with respect to the neutral which is nominally at ground potential. In the house wiring the insulation around the neutral conductor is coloured black and that around the active is usually red, although any colour other than black, green, yellow or green and yellow combined may be used.

When the house wiring reaches a general purpose outlet or "power point" we have, for convenience, a switch. This switch must break the active lead.

To connect to our equipment we should use a three wire flexible cable with a three pin plug. It must be wired as shown in Fig. 2. The correct connection of the earth connection is most important.

If the active and earth are interchanged your first attempt to connect the antenna may be your last. Once properly connected any fault, such as a breakdown of transformer insulation, which would try to make the chassis live will cause the fuse to blow and alert us to the possibility of a dangerous fault.

Some sporadic failure of fuses does occur but if the replacement fuse blows then pull the mains lead from the power point and start looking for a fault.

Sub-circuit Conductor Cross-section Area mm ²	Protective Fuse Rating A	Maximum Circuit Load kW	Domestic Application
1.0	8	1.92	Lighting only, up to 10 lamps
1.5	12	2.88	Lighting only, up to 10 lamps Up to 15 lighting or GPO points or one 15A plug socket
2.5	15	3.84	

TABLE 1: Fuse ratings for various conductor sizes for domestic installations with several circuits for both lights and General Purpose Outlets (GPOs). Source AS 3000 — 1981.

MAGAZINE REVIEW

Roy Hartkopf VK3A0H

(G) General. (C) Constructional (P) Practical without detailed construction information. (T) Theoretical (N) Of particular interest to the Novice

ZERO BEAT September 1981

(Youth Radio Clubs' Scheme Magazine) AOCPS Statistics (G), Instructional ideas Department (N)

BREAK IN August 1981

Low Voltage DC Power Supplies (GP) Feeder Matching Unit (P)

RADIO COMMUNICATION October 1981

Vehicle Interference Suppression (P), 400 MHz Signal Source (C)

73 MAGAZINE October 1981

Contest Issue, Propagation (T.G.), TTL Keyer (P), Audio Function Generator (P).

CQ-TV 115 August 1981

Mobile (Low Drop) Regulator (P), 70 cm Linears (P), Colour Mixer (P)

CQ September 1981

Contest Issue.

INTRUDER WATCH

NEWS FROM PAO LAND

From 'Electron', official journal of VERON, November 1981 issue Translation VK4QA. Have you logged the latest intruder on our 40 metre band yet? It is the transmitter calling itself 'The European Amateur Radio Revolution Committee' And it is a peculiar type of intruder. The tape recordings broadcast by this station appears to originate from a very powerful transmitter beaming to, and operating on, 7.065 MHz, the exact frequency of Radio Tirana.

Just as Radio Tirana is an intruder so is the other transmitter, and both stations are operating against ITU regulations

However, the new intruder will receive much sympathy from the radio amateur fraternity. Despite the numerous regulations and agreements, Radio Tirana continues to make life unbearable on the exclusive amateur portion of the 40 metre band. It appears that nobody can solve that thorny problem

However, a suggestion was made to post "en masse" exceptional bad listeners' reports to Radio Tirana. And if each report is accompanied by a protest against "frequency imperialism in the radio amateur band", who knows, something may eventually happen.

If you have let your WIA membership lapse in the past year or two, why not seek re-instatement now — just look at what you are missing.

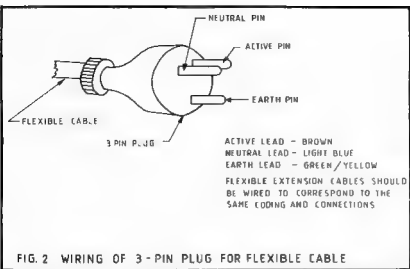


FIG. 2 WIRING OF 3-PIN PLUG FOR FLEXIBLE CABLE

Now the neutral conductor carries the same current as the active under normal domestic conditions so, due to the ohmic volt drop, it may not be at earth potential. It should not be used as an earth return and should not be connected to ground or chassis in any equipment

The earth wire carries current only when there is a fault. It must be capable of carrying the fault current and thus causing the protective fuse to blow. The usual method of providing a low resistance earth is to connect a heavy conductor to the cold water piping system. Sometimes a 20 mm pipe is driven 1.2 metres or more into the ground to provide the earth. The resistance of the earth electrode arrangement should typically not exceed 3 ohms for an installation with no fuse larger than 15A

If the exposed metal parts of any appliance becomes "live" then there exists an electrocution hazard. The danger arises from the possibility of simultaneous contact between the live part and ground by a person. A correctly wired ground system prevents such a hazard

It would be wise to use only one easily accessible power point for operating all equipment in the shack. A distribution board with several switched outlets could be run from this master outlet. Again all members of the family should know the position of this switch and be prepared to switch it off just in case they discover you being severely bitten by the 50 Hz demon snake

One of the most common causes of electrical fatalities is the incorrectly wired extension cable. Transposition of active and neutral can be dangerous, but is not obvious — equipment at the other end still runs. Even the very dangerous earth transposition can go unnoticed in some cases. Why not check out your extension cables today?

An inexpensive three lamp tester can be purchased from most electrical/electronic stores. It comes with instructions for testing all your power points and extension cables.

Some installations may use circuit-breakers instead of fuses. For this type of application the circuit is broken (the circuit-breaker opens a set of contacts in series with the active conductor) when the line current exceeds a safe level. The circuit-breaker can be reset (the contacts re-closed) after an overload by pressing a lever or a button.

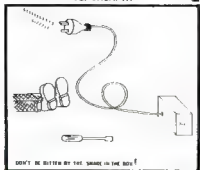
Most circuit-breakers use a small low-valued resistor in series with the circuit to heat a bi-metallic trip lever. When the current is large enough the trip lever operates and allows a spring to open the contacts quickly

There are also circuit-breakers which are fully solid-state and some which use a coil and the resulting magnetic force to trip the contact opening mechanism.

Circuit-breakers can be very fast acting and are more convenient than a fuse, especially in industrial environments where temporary overloads are frequent. Of course circuit-breakers cost more than fuses.

I hope this helps you in understanding the general safety aspects to be followed for 240V in the shack. Don't get bitten by the snake in your box!

73, VK3AFW.



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ALARA

AUSTRALIAN LADIES AMATEUR RADIO
ASSOCIATION

Our first meeting of ALARA held on a national level on Monday, 26th October, was an outstanding success, with 21 girls calling in VK2, 3, 4, 5, 6 and 7 were all represented. This was most heartening for the executive committee and shows the interest in ALARA's continuation. So thanks to the girls who joined in and look forward to meeting again next month.

The sub-committee to sort out the constitution meets on Thursday on air and is progressing well. Some of our recommendations were discussed at our meeting and voted on accordingly. Full details will appear in the Newsletter for comments from members.

Subscriptions for ALARA are now due on 1st January each year. VK subs. \$5.00 yearly. Overseas \$3.00 sea mail; \$6.00 air-mail.

YL NETS

ALARA Mondays 1030Z (0930Z daylight saving time), 3.570 MHz.

Meeting 4th Monday, as above.

220" DX-YL net Monday 0630Z on 14.220 MHz.

Open House Tuesday, Thursday, 1000-1200Z on 14.332 MHz, look for G11 VK6YL.

Midweek Net: Wednesday 0430Z on 28.470 and look for Daphne VK2KDX.

15m Net Friday 0400Z on 21.168 and look for Bev VK6NYL.

VE/VK/ZL Net: Friday 0500Z on 14.160 MHz and 2300Z on 28.450 MHz.

Next month I will give details of our contest and some of the results. As I write this it is still four days to the contest.

Do hope all readers had an enjoyable Christmas and festive season, to all travellers drive safely and enjoy your holidays, don't become a statistic.

Until next month take care

73/33 Margaret VK3DML.

INTERNATIONAL NEWS

New Zealanders have been granted the use of FSK (F1) on the 10 metre band from 28.0 to 29.7 MHz instead of from 28.0-28.1 MHz. The maximum occupied bandwidth has been altered to 3 kHz (Break-in September 1981).

At the joint DOC/WIA meeting on 28th October last it was reported that the Department was negotiating for reciprocal licensing agreements with the Administrations in Japan, West Germany, France (and New Caledonia), Greece, Denmark, Netherlands and Costa Rica. The Institute had also applied for a third party agreement to be negotiated with Brazil (vide Sydney-Rio Yacht Race next March in particular) in addition to the USA and PNG (particularly bearing in mind the need for this in natural disasters and emergencies affecting PNG).

JAPANESE AMATEUR VISITS AUSTRALIA

Bill Martin VK2PFH

33 Somerville Rd Hornsby Heights, NSW 2077

Recently I had the great pleasure of meeting Katsush Ono (Katsu) JH7OHF on his visit to Australia. Katsu came to Australia for the express purpose of learning English at a private school and to meet some Australian amateurs.

Katsu currently holds the Australian "guest" call of VK2PJJ and whilst in his homeland holds a class 2 licence.

Katsu came to Australia in late February 1981 and intends to return to Japan about January 1982. He has been an amateur for about seven years, having obtained his licence whilst in Junior High School in Japan. Katsu is a member of his local radio club and also a member of his university radio club, where he is studying International Law. His university is Chuo in Tokyo. Whilst resident in Australia Katsu became a member of the WIA and is, of course, a member of the JARL.

Katsu's radio equipment includes a Yaesu FT901 and he was very active on 40 and 80 metres before coming to Australia. Katsu has his home QTH at Toda-gun, Miyagi Prefecture, and operates from there both on CW and SSB.

Recently Katsu was a visitor to my shack and I think he took great delight in listening to my poor version of the Japanese language whilst I was working into Japan on 15 metres. However, he was very nice about it, and I was not at all put out when he commandeered the microphone and showed me how to really talk to the Japanese in their own language. That was probably the best Japanese that will ever emanate from this shack! The Japanese stations at the other end were delighted to converse in their own language with Katsu, and I suspect that Katsu enjoyed the experience.

My impression of my first face-to-face meeting with a Japanese amateur was very favourable indeed, and Katsu is a great ambassador for his country, as well as a great ambassador for the hobby of amateur radio. I'm sure you will join with me in wishing Katsu well in his studies, and I personally wish him good luck and Good DX."

Bill Martin



Taken at final meeting of ALARA in Melbourne, on 3rd October, 1981.

L-R Back Row: Irma VK3VCF, Valda VK3BYT, Maggie VK3NQQ, Mavis VK3KS, Margaret VK3DML.

L-R Front (seated): Geraldine VK2NQI, Raedi YF/VK3BHL, Mavis VK3BIR.



Pictured L to R: Bill VK2PFH and Katsu JH7OHF (VK2PJJ) in Bill's shack.

SPOTLIGHT ON SWLing

Robin Harwood VK7RH

5 Helen St., Launceston, Tasmania 7250



With the commencement of another year, there are several promising developments on the horizon. Already we have obtained an expansion on the 40 metre allocation from 7150 to 7300 kHz, with exactly the same conditions that already apply to operation between 7100 and 7150, that being a shared allocation with broadcasting services. This will allow us to work stateside stations on their frequencies, no longer having the necessity of working split frequencies.

We are reported to be able to utilize the WARC allocation on 10 MHz, as from January 1st. Amateurs are the secondary service, fixed stations having first priority on the frequency. As the allocation is only from 10100 to 10150 kHz, I do predict that it will be extremely difficult finding a clear channel during the peak times. There are at present a multiplicity of services already occupying these channels. It is worth noting that other administration, when releasing the WARC band to the amateur service, have in many cases restricted the operating mode to A1 or F1. Some have also imposed power ceilings.

I believe, as well, the 27 MHz CB channel allocations within Australia have been increased from 18 to 40 channels, as in America. This has been taken to ease the congestion on the existing channels, particularly in metropolitan areas. This will also decrease the illegal operation by CB pirates at present using these channels.

There hasn't been any increase in the 476 MHz UHF CB band. However, I believe that the Department of Communications has released a set of guidelines for UHF CB repeater operation. It is also interesting to note that the British CB Service commenced in early November. Open Channel Radio, as it is titled by the British Home Office, is on 900 MHz on F.M. The majority of the CB pirates within the UK are, of course, on 27 MHz, and are rather scathing in their comments on the UHF service, pressing for the legalisation of 27 MHz. Sound familiar?

More information has come to hand about the recent experimental transmissions of computer data programmes via shortwave radio. You remember that Radio Netherlands conducted this unique experi-

ment on September 10th. They tried three of the most popular home computers on the market — APPLE, Tandy TRS-80 and PET Commodore. Written in BASIC, a simple direction and bearing programme was devised. It had to be recorded in three different versions because of the variation in cassette interfaces. All transmissions were sent on the standard AM system regularly used by the international broadcasters. They were recorded at 0 dB to ensure that, at the time of transmission, they could obtain almost 100 per cent level of modulation as is possible. There was a marked difference in levels obtained between the two relay bases in Bonaire and Madagascar and the transmitters located within the Netherlands. The latter is only able to produce 70 per cent because of the age of the transmitters, yet strangely enough the only one able to provide data readout.

Over 235 listeners responded to Radio Netherlands with feedback on the transmissions. Forty-two per cent of those responding were successful in copying a perfect or near perfect programme on their computer. The APPLE system was a complete write off, due to noise wiping the entire data. Those with direct connections between receiver and recorder were able to obtain satisfactory copies. Ten per cent of the respondents, after the failure at the first attempt, were successful after re-recording the programme on to a second machine. Raising the level on the re-recording also resulted in acceptable copy.

The bandwidth setting of the receiver was critical, as those who used settings lower than 5 kHz found out, including your scribe. So many listeners with average or modest equipment with wide selectivity were apparently successful. There was also an incompatibility problem experienced by some users. Those with the TRS-80 were not told that it was for Model 1, Level 11, yet this system had the highest rate of success of the three used. It is also interesting that 82 per cent of those successful were from Europe, yet the North American region has the highest number of computers per capita.

From the results of the observations, computer data transmissions via short wave radio seems a practical possibility, as the utilization of PTP and the more efficient SSB circuits for computer data transfer is well known. However, this transmission intended for a mass audience indicates it is a viable experiment worth further investigation. Accordingly, Radio Netherlands has scheduled another computer data transfer programme on the 28th of January, 1982. It will be on the Media Network programme, and those in the Pacific region can hear it at 0750 GMT on 9770 and 9715, repeated at 0650 on 9715 kHz. Those in WA might try the 1350 GMT transmissions on 17065 kHz. Systems to be used will be the Sinclair ZX-81, TRS-80 Model 1, Level 11, PET, and possibly the ATARI.

One problem faced by computer users is the incompatibility between the differing systems. Faced with this, enthusiasts in the Netherlands have developed an "Esperan-

to" of universal language for computers. This consists of a 1200 baud code consisting of two tones, at 1200 Hz and the other at 2400 Hz. To be able to decode the transmitted programmes, many computers (such as APPLE or Philips) simply need a copy of the translation programme. This is provided for a small charge to enthusiasts within the Netherlands. Other systems such as the TRS-80 only require the addition of a small amount of electronics costing \$US40 approximately.

Since the failure of the APPLE system on short wave, Radio Netherlands see the application of this code for international use. They plan to transmit this basic code known as the "Hobbyscope" system on the January 28th session, and evaluate its effectiveness from special monitors from among the panel of APPLE users from the first transmission in September. Incidentally, "Hobbyscope" happens to be the name of a weekly programme for computer enthusiasts in Netherlands and broadcast over one of the domestic networks AM or FM channels, complete with data transfer.

Already experiments transmits on amateur frequencies, using this code on both AM and SSB, indicate successful exchanges. The use of the sync pulse within the code does ensure minimal disruption during disturbed conditions. Mixing of data obtained from repeat transmissions is a possibility. If this code works, it could mean a universal interface for mass communication of computer data. My grateful thanks to Jonathon Marks and Media Network at Radio Netherlands for making the above information available to me.

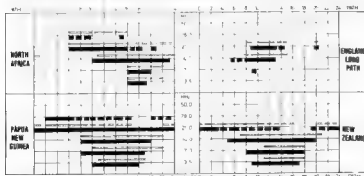
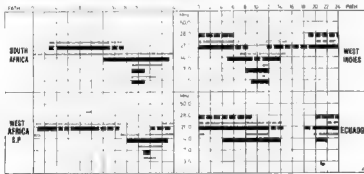
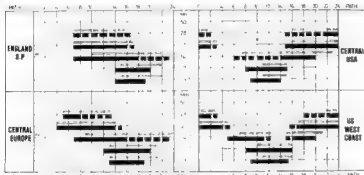
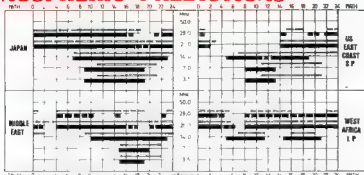
Another interesting part of the hobby to SWLs is the copying of radioteletype (RTTY) signals on to video. As numerous stations are using RTTY, there is no shortage of copy to be read. Of course different users employ a variety of shifts and speeds. Hams have a narrow shift on 170 Hz, while the majority of press and commercial systems are 425 Hz and some 850 Hz. Many FSK intruders within the Ham bands either used 500 or 1000 Hz, indicating they are either Soviet stations or using equipment coming from that region. Many RTTY to video converters have been released recently. One only requires an a.u.d. input from a short wave receiver, 12 volt supply and a TV fitted with UHF capabilities. It has automatic sensing of speed and shift variations. It contains two microprocessors and 19 ICs and costs £150 sterling approximately.

By the time this goes to press we could have another three amateur satellites in orbit. The USSR is planning to launch these in the next couple of weeks. They already could be orbiting by the time you read this. I believe there will be several beacons between 29.38 and 29.5 MHz. Further details will be obtained from the OSCAR reports on your Divisional broadcast. My thanks to Peter VK7PF for supplying this last minute information for the column.

Well, that is all for this month. Until next time, the best of DXing and 73!

INVITE AMATEURS TO JOIN THE WIA

IONOSPHERIC PREDICTIONS



FROM WESTERN AUSTRALIA

LESS THAN 50% OF THE MONTH, BUT NOT EVERYDAY

Predictions courtesy Department of Science and Environment IPS Sydney.
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LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

29 Andamar Street, Jamboree Heights,
Queensland 4074
27th October, 1981

The Editor,
Dear Sir,

I've been meaning to write this for a few weeks now. On the spine of the September 1981 issue of AR was the volume and monthly identification printed — at last, I thought — save me scribbling my own there — however comes my October issue and no spine printing.

Please I think it is a worthwhile effort to print this information where it is most easily seen on the book shelves. How about making it a permanent feature?

Keep up the good work with AR.

73, Iain Morrison VK4KIQ.

[We'll remember the "spine bashing" in future — Ed.]

"Cornelian Hill", Bagdad, Tasmania 7407
30th October, 1981

The Editor,
Dear Sir,

Ian Nichola (OM VK7ZZ) has asked the "Hear a Book" Service to record the Institute's magazine on to cassette tape. We cannot do this without copyright clearance from the subscribers of articles.

I am confident it would not be the wish of subscribers to the magazine to deprive blind, and other print handicapped subscribers, of the contents of the magazine, rather it is a situation where the contributors do not realise the true position.

In future, would it be possible for all subscribers to indicate to you they are prepared to give copyright clearance to "Hear a Book"? When recording the article, credit will be given to the author.

OM VK7ZZ will get a group of print handicapped operators to promote this new venture through radio contact and, in the meantime, I would be grateful if you could do all you can to assist "Hear a Book".

Yours sincerely,

Mrs. Barbara Sattler, M.B.E., Founder and Hon.
Secretary "Hear a Book" Service (Tasmania) Inc.

Southern Highlands Radio Society

The Editor,
Dear Sir,

I understand you would like something said about old hams — here goes.

I became interested in radio at the age of 12 years, having built a loose coupler crystal set, to be followed by a 2 valve regenerative, using 2 of 201 "A", costing £2/10/0 each, for which I pushed a hand over at a doctor's place to buy.

Having received the first wireless station in Sydney, Broadcasters Ltd. 2BC, to be followed by 2FC. I was invited by friends out west on a farm at Bogan Gate to bring up my wireless. No one had ever seen or heard a wireless set.

Reception was at night, and one night an incident happened. The aerial, a very long wire some 50 ft. high, took flapping over between the terminals of the aerial and earth. The sky was clear but dry, being in a drought. However, there was a huge dust storm blowing and the continuous arc proved to be static electricity across a distance of 10 inches.

My friends ordered me and the receiver out of the house, they were afraid it would blow up. I never found out the actual cause, but my theory is the movement of heavy dust acted like a capacitor between aerial and earth.

I kept in touch with various forms of radio, as it was known in those times. During the Second World War I was engaged in eliminating electrical interference from engines and motors in ships and lightning protection.

In 1952 I received my full licence, having previously made my transmitter gear. After some years I turned DSB and recently to SSB. I use a Kenwood 5005. The antennas are a yagi junior 3 element mounted 5 metres above ground and a vertical FED at the base, 27 ft. high. Both antennas work well on DX. I am interested in local contacts on 10 metres and, when DX is not present, to let provokers know we are using the bands.

I have two prize items of a nostalgic nature — two honeycomb coils of 12,500 turns, tuning to 18,000 metres, made by De Forest, Mr. De Forest, as you know, put the control grid into Fleming's diode. The inscription on the coil says "What are the wild waves saying?". How romantic! The other item is a Philips carbon mike 54 years old.

Although my health isn't so good I hope to give that QSO to the gang.



Yours sincerely,
P. (Frank) Christie VK2ATE.

SILENT KEYS

It is with deep regret that we record the passing of —

Mr. F. T. WILSON	VK5QA
Mr. S. J. EXCELL	VK3ASJ
Mr. S. L. HOWELLS	VK5KBH
Mr. D. L. PRICE	VK3ZLP
Mr. C. K. BLAKE	VK3BDO

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	20.00	S*
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	15.00	Family
VK4	24.00	F
	24.00	A
	24.00	C
	24.00	T
	20.00	G
	11.00	S*
	11.00	Family
VK5	30.00	F
	28.00	A
	28.00	C
	26.00	T
	20.00	G
	15.00	S*
	17.00	Family
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	27.00	A
	28.00	C
	27.00	T
	22.00	G
	17.00	S*
VK7	28.50	F
		(all zones)
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* Subject to authentication.

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Kiyoshi as Service Manager - Amateur Radio, performs pre-delivery tests on all imported equipment to ensure that rigid factory specifications are maintained. Trained in Japan by Icom and Sanyo, Kiyoshi first gained his amateur licence in 1965.

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